

Amazing *For The Commodore* AMIGA

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AMIGA CD³²

In this issue:

- Making Waves in Aladdin
- Making Clouds with Scenery Animator
- CanDo Tutorial

Reviews:

- Retina
- HELM
- DKB 1202
- Bernoulli MultiDisk 150
- Scenery Animator 4.0



AMIGA CD³²

- Double-speed CD ROM
- 32-bit technology
- AA chip set
- CDXL
- Optional MPEG expansion



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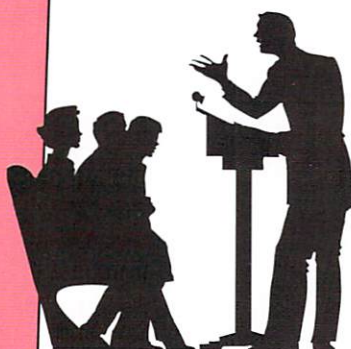
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September 10, 11 & 12, 1993



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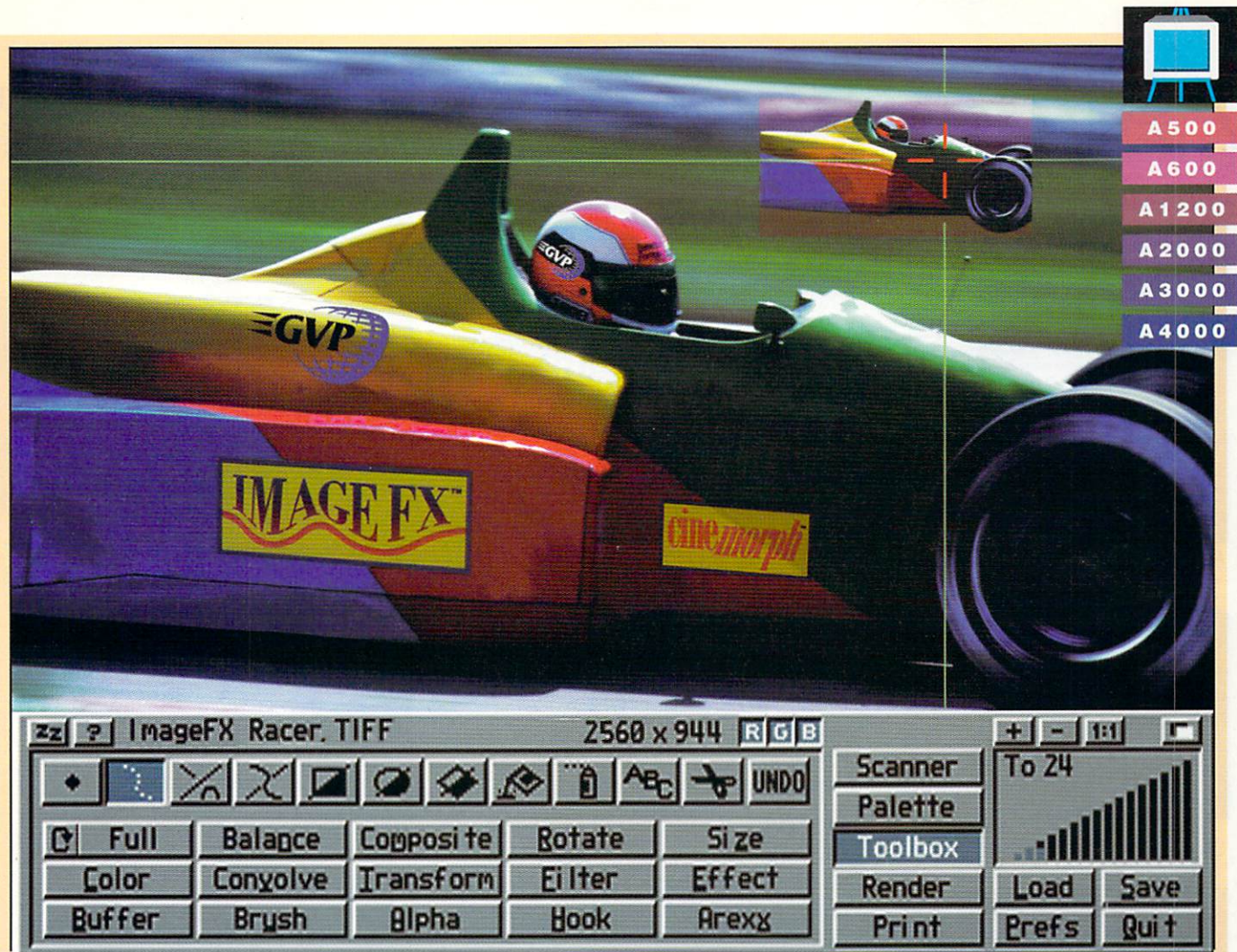
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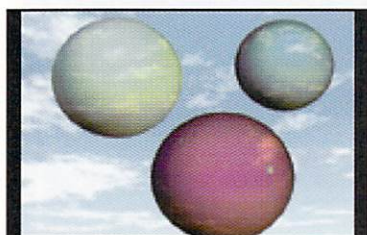
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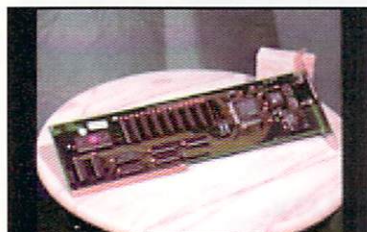
CONTENTS



Helm, p.16



Clouds in Motion, p.34



Retina, p.14



DKB 1202, p.18



Scenery Animator 4.0, p.23

In This Issue

29 Making Waves

by R. Shamms Mortier

Mortier focuses on the Wave Requester in Part IV of his *Aladdin* tutorial series.

34 Clouds in Motion

by R. Shamms Mortier

Using Animated Clouds from *Scenery Animator 4.0*.

37 Bars&Pipes Professional

by Rick Manasa

MIDI sequencing and multimedia control software for the Amiga.

46 CD32

Commodore's new Amiga CD32 is a 32-bit marvel that goes where no game machine (entertainment device) has gone before.

66 CanDo

by Randy Finch

This installment discusses using *CanDo* documents in conjunction with user-defined variables as well as getting you started with database programming.

81 Media Madness

by Rick Manasa

Discover what it can do for *Bars&Pipes Professional 2.0*.

Projects

43 Keeping Your Cool II

by Henning Vahlenkamp

Vahlenkamp makes installing a fan in your A1200 a real breeze.

Reviews

14 Retina

by Douglas J. Nakakihara

Nakakihara describes the Retina as an affordable solution to getting a true 24-bit display on the Amiga.

16 HELM

by R. Shamms Mortier

A new entry into the Amiga Authoring System competition.

18 DKB 1202

by Henning Vahlenkamp

Vahlenkamp wholeheartedly recommends the DKB 1202, believing it to be a first-class product.

20 Amiga E

by Charles R. McCreary, Ph.D.

McCreary considers this public domain program a truly painless way to get introduced to application programming.

22 Bernoulli MultiDisk 150

lomega brings this versatile storage solution to the Amiga.

23 Scenery Animator 4.0

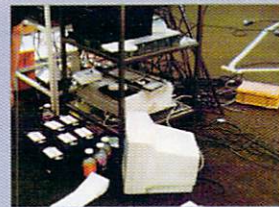
by R. Shamms Mortier

Mortier believes *Scenery Animator* may have lapped its competition with the release of 4.0.

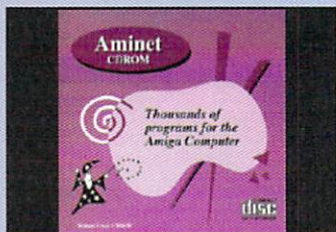
And Furthermore...

by Jeff Gamble

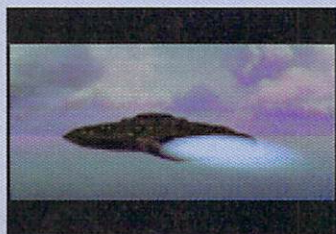
"Me TV"—the Amiga works with a video production company and brings a twist to karaoke. p.96



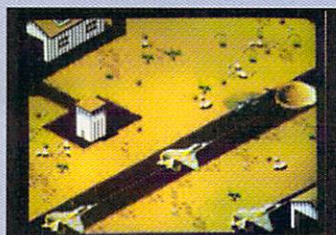
New Products, p.10



New Products, p.10



The Video Slot, p.73



Desert Strike, p.83



Zool, p.86

Columns

8 New Products & Other Neat Stuff

by Elizabeth Harris

From the newest releases to the latest upgrades, "New Products" has it covered. This month includes *Dinomath*, *Syndicate*, *VTCLock*, and more.

25 cli directory

by Keith Cameron

This month Cameron begins to cover some of the more complex aspects of script writing.

27 Bug Bytes

by John Steiner

Questions this month concern the B.A.D. utility, STAT-RAM 2.1, A2002 monitor, *WordPerfect 4.1* date function, and more.

53 Roomers

by The Bandito

CD32 unveiled—can it successfully compete against 3DO, Atari's Jaguar, Sega CD, CD-I, and Super CD from Nintendo?

57 ARexx

by Merrill Callaway

Callaway takes a look at Ola Olsson's "Mother of All Genies."

73 The Video Slot

by Frank McMahon

McMahon covers new upgrades to popular programs including the Video Toaster, *Aladdin 4D*, *Caligari 24*, and more.

83 Diversions

Return to the Gulf, *Desert Strike*, and *Zool* are featured in this month's "Diversions."

Departments

Editorial6

List of Advertisers80

Feedback90

Public Domain Software....94

And Furthermore.....96



CD32

Commodore has unleashed a game/education/entertainment device which could easily redefine our expectations. From the advanced graphics opportunities to the optional MPEG capability, CD32 has the potential to make dramatic changes in the movies, recording, entertainment, education, and cable industries. p.46

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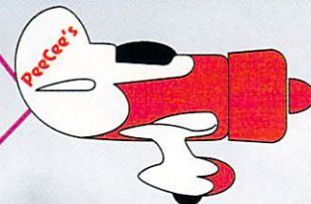
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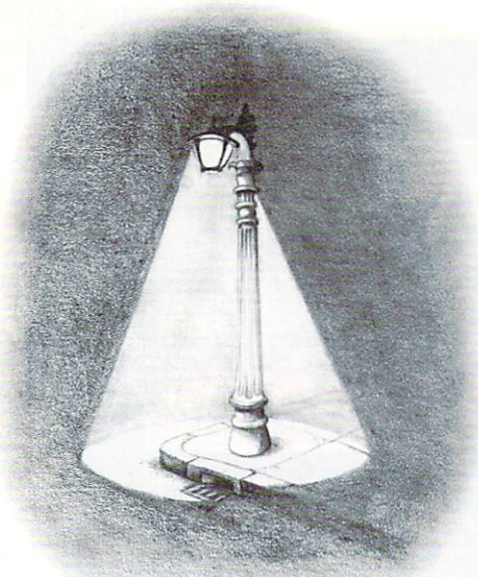
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EDITORIAL CONTENT

The Search For CD³²



Amiga CD³²

Aside from its importance to Commodore as a new Amiga, CD³² is important for the technology that it brings to the marketplace. Double-speed CD-ROM, AA Chip set, 32-bit technology, Full Motion Video, MPEG, and an expansion port that promises a whole lot more, are all indications of an advancement in technology and new capability in the consumer market.

However, Commodore's announcement of the new Amiga CD³² was received with some timidity by Amiga users and developers. They remember the highly promoted CDTV and the apparent lack of support and sales. They either blame Commodore for not marketing CDTV more aggressively, the economy for being too sluggish to respond to the new technology, or the new technology for being too new. The truth lies somewhere in the middle.

A combination of the Gulf War, consumer resistance, and a lackluster showing by CBM is probably the cause. While CDTV was only modestly known in North America, CDTV did its best in Europe and most predominantly in the UK. So CBM decided to unveil Amiga CD³² on July 16, 1993 at the Science Museum in London. The North American introduction is not scheduled until the Pasadena World of Commodore, September 10-12.

CD³² Applications

CD³² is both inexpensive (current pricing is £299 in the UK, while American pricing should be "less than \$400") and versatile. CD³² is a condensed Amiga 1200. CD³²'s rear expansion port allows access and expandability in almost every area the Amiga already occupies. From video to graphics, CD³² can be accelerated, enhanced, and reshaped into almost any configuration. Instead of a simple game machine, Commodore has given us a low-cost Amiga engine. An engine for almost any need from kiosk displays to black box controllers.

Aside from installing Amiga engines in a host of new products, CD³² will spawn a few

markets as a consumer device. *Video Creator*, produced by Almathera, is an excellent example. *Video Creator* is a CD package designed to create music videos from a library of video images and animations (not live video or tape) using special effects.

Recently, Philips, Sony, JVC, Matsushita, Paramount Home Video, and Commodore signed an agreement for a worldwide standard of linear full motion video termed, Video CD. 5 1/4-inch CDs will now run up to 74 minutes of standard video and audio. This is the foundation of a new and dramatic entertainment industry. When implemented, Video CD could easily replace today's CDs. While today's audio CDs can be played on CD³² and other Video CD players, Video CD will not work on audio CD players. But Video CD allows both CD-quality audio and Laser Disc-quality video on a standard CD-size disk. If enough consumers demand the Video CD format, it could easily make today's CDs and players as extinct as yesterday's long-playing records.

Video CD on CD³² requires the optional MPEG module (suggested retail will be under \$300). Commodore's early entry with this standard could easily make them the dominate force.

Yet, North America is the predominate supplier of music videos and other film entertainment. If Commodore does not fully support CD³² in the U.S. markets, will film and recording people look to CD³² or another platform? Without North American support, can Commodore hope to bring about the full realization of CD³²? This all reminds me of a story I heard a long time ago.

The Art of Searching

Mr. Jones was walking home late one night, when he saw his neighbor, Herb, crawling along the sidewalk searching the ground under the corner street light. Mr. Jones called, "Herb, what's wrong?"

Herb looked up from his position on the sidewalk and said, "I was almost home when I dropped my keys and now I can't seem to find 'em."

Mr. Jones began searching the sidewalk to help his neighbor. The lone street lamp they were under brightly illuminated the ground, but Mr. Jones did not see the keys anywhere. After several minutes, Mr. Jones asked, "Herb, exactly where were you when you dropped your keys?"

Herb looked up once again from the sidewalk, "I was just over there." He raised one hand and pointed to a spot about twenty feet from where they were.

Mr. Jones looked at the spot and then looked at Herb, "Then why are you searching here?"

Herb answered with some irritation, "Because the light is much better here."

Within The Light

Commodore International has picked the UK as their primary focus for CD³², or at least its introduction. They have done so because of the limited success of CDTV by UK users. Unfortunately, this level of success has not spawned the quantity and depth of software required to call CDTV a success. Although the sales levels have maintained some interest by UK developers, it has not brought unqualified support from the entire market. Most developers from other countries have adopted a wait-and-see attitude on CD³².

Two factors are squarely in Commodore's favor. CD³² is priced significantly lower than CDTV, and CD³² has advanced capabilities currently unavailable on any other platform. This could mean a significant increase in the number of CD³²'s sold as compared to CDTVs.

One factor is squarely in the negative. If Commodore does not convince developers around the world that CD³² is a significant platform that deserves support, they will not attain the level of software needed to drive the CD³² market.

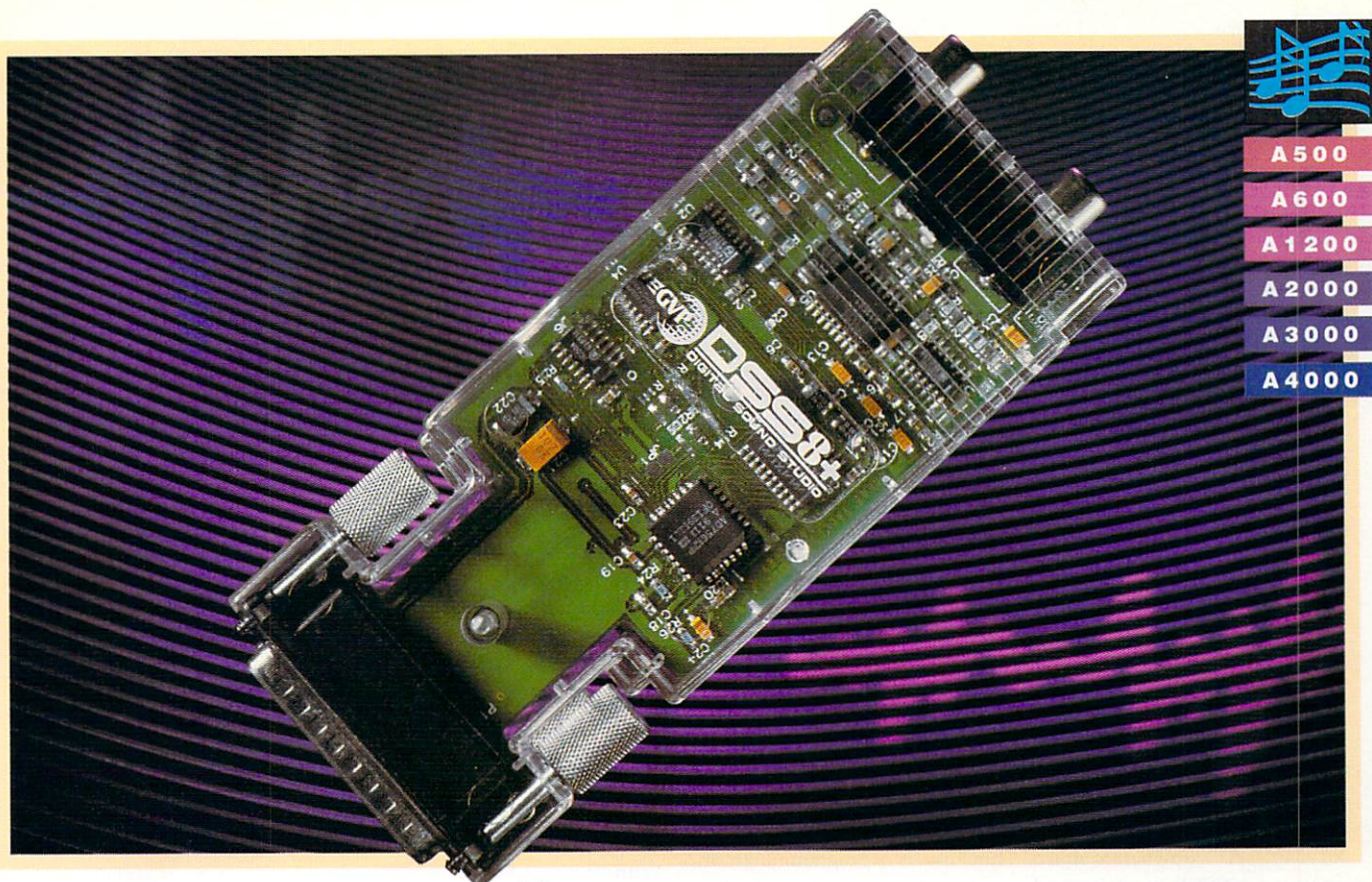
Most developers view their markets on what they can see around them. If U.S. developers do not recognize CD³² as a household word, they will continue to develop for those machines they do recognize.

Commodore International may base their decision on where to supply CD³² by the number of successful CDTV dealer outlets, chains, etc. in each sales area. Yet, if we have learned anything from the 90s, we have learned that there are many more ways to sell a product in the U.S. than by massive advertising and large dealer networks. Commodore must seek ways to distribute CD³² and promote it, so that it does become a household word throughout all of their sales areas.

Commodore has to search for opportunities where opportunities are and not just where the light is best.

Sincerely,

Don Hicks
Managing Editor



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NEW PRODUCTS

and other neat stuff

A1200 SCSI Kit

GVP announces the launch of an external SCSI Kit add-on for its A1200SCSI/RAM+—the first SCSI drive interface for the A1200. The external SCSI Kit opens a whole new world to A1200 SCSI/RAM+ owners, one filled with SyQuest drives, Ricoh Drives, Magneto-Optical drives, Tape drives, CD-ROM drives, and more. This new kit enables A1200 owners to attach up to seven SCSI devices to expand their storage to its maximum. *Great Valley Products, 600 Clark Ave., King of Prussia, PA 19406, (215) 337-8770. Inquiry #200*

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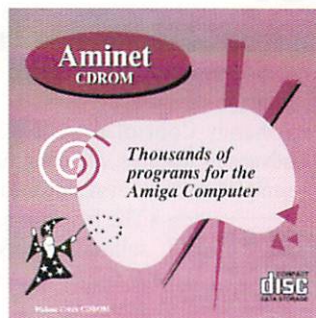
The product ships with an extra 1MB of 32-bit RAM installed. This allows users a more economical upgrade path.

Every AlfaRAM 1200 comes with SETMM1200 software specifically designed to allow you to configure and test the RAM card. *AlfaData, P.O. Box 6990, Champaign, IL 61821, (217) 356-1962. Inquiry #201*

Aminet CDROM

The Aminet CDROM contains thousands of Amiga programs from the Aminet Internet Archive.

This disc contains nearly 600MB of software. The thousands of applications include GNU programs such as the GNU ANSI C/C++ compiler, the GDB symbolic debugger, GNU Emacs, the Ghostscript previewer, and GNU Chess. The Aminet collection is global in scope, containing many programs from North America, Europe, and elsewhere. There is a huge library of programming tools, technical documents and other software for developers. This CDROM contains hundreds of demos of commercial software, so you can try before you buy. *Walnut Creek CDROM, 4041 Pike Lane, Ste. E, Concord, CA 94520. Inquiry #202*



AMOS Professional Compiler

Following the success of AMOS Professional last year, Europress Software has announced the long-awaited arrival of AMOS Professional Compiler. This updated and considerably improved version of the original AMOS Compiler, which came out in the summer of 1991, contains 200 more commands than the original version. They are all designed to simplify the compiling of programs created with AMOS, Easy AMOS, and AMOS

Professional. *Europress Software, Europ House, Adlington Park, Macclesfield SK10 4NP, (011) 44-625-879962. Inquiry #203*

Bernoulli MultiDisk 150

Offering 150MB of storage capacity, the MultiDisk 150 offers more storage than any other magnetic removable disk drive and places the Bernoulli drive within the capacity range of optical drives. The improved performance levels match those of a hard drive; it has an 18msec effective access time and 5MB transfer rate. The 150MB Bernoulli introduces the concept of MultiDisk—the right capacity for the right job and price. The MultiDisk 150 reads and writes disks in four sizes: 35MB, 65MB, 105MB, and 150MB. *Iomega Corporation, 1821 West 4000 South, Roy, UT 84067, (800) 777-6179. Inquiry #204*

The Box 150

With 18ms access and built-in read/write cache, The Box is as fast as most hard drives and up to three times faster than competitive removable rigid drives. Full SCSI 2 allows immediate connect to all Amiga SCSI computers. Available as Insider version for Amiga 4000 and tower applications, or fully Transportable version for ultimate versatility. For more information call: (800) 4THEBOX. *Iomega Corporation, 1821 West 4000 South, Roy, UT 84067, (800) 777-6179. Inquiry #205*

"Diner" Object Set for Imagine

Terra Nova Development has released Volume One of its Designer Objects series of 3-D models. This first volume, "Diner," is a three-

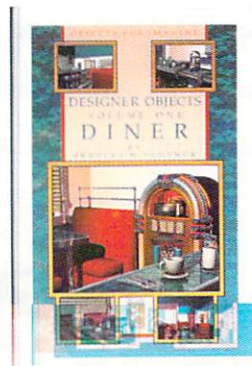
disk set of objects for Imagine. The Diner set (\$47.50) includes a variety of objects that together build a complete diner of the early 1950's, including a jukebox, counter, booths, a pay telephone, dishes, cups, and more. In many cases there are both hi-res and lo-res versions of objects so that artists can optimize their scenes for either image quality or speedy rendering. *Terra Nova Development, P.O. Box 2202, Ventura, CA 93002, (805) 652-0531. Inquiry #206*

Dinomath

Achieve, Inc. announced its new educational software program: Dinomath. Dinomath (\$39.95) will assist children ages 5 to 10 in learning the most basic math skills which will serve as the foundation for all subsequent mathematics understanding. Addition, subtraction, multiplication, and division are each covered in a drill and practice format. With each correct answer, students come one step closer to transforming a fossil into a live dinosaur. Also, the game portion of the program gives students a chance to sharpen their math skills through an interactive learning game. *Achieve, Inc., P.O. Box 821313, Dallas, TX 75382-1313, (214) 836-9080. Inquiry #207*

PEGGER

PEGGER (\$95) is a fully integrated JPEG utility based on the compression algorithm. PEGGER allows programs that don't support JPEG images to work automatically with them. Everything from 3-D animation systems to graphic and multi-media programs greatly benefit from the enormous savings in hard drive space. PEGGERs "Snoop" capability automates the JPEG processing for programs that don't support JPEG. Designed to run in the background, and when idle, uses few system resources. Even if your computer were to crash while PEGGER was processing files, when restarted, PEGGER will continue processing the files where it was interrupted. *Heifner Communications, Inc. 4451-70 Drive NW, Columbia, MO 65202, (800) 445-6164. Inquiry #208*



The Toaster System Integrator.

T-Rexx Professional is a highly integrated ARExx script generation environment with powerful tools specifically designed for the NewTek Video Toaster. T-Rexx can also automate the functions of 11 other important products, and, because it is completely user configurable, you can add support for the products of your choice.

Benefits

T-Rexx Create sophisticated scripts without any knowledge of ARExx. You simply point and click. T-Rexx even displays your scripts in plain English!

T-Rexx All T-Rexx tools are connected together creating a **fully integrated system**. You need learn only one user interface to master every aspect of T-Rexx Professional.

T-Rexx You can quickly and easily manage large quantities of Toaster Framestore images. **Convert Framestores to and from RGB** (in full color and fidelity) *without requiring a Toaster*.

T-Rexx You can create your own **ActionFX** and **OrganicFX** to produce custom results for your demanding clients. Using T-Rexx's special effects processing, dozens of new FX can be created from a single source.

T-Rexx You can create and modify **Toaster projects** creating exactly the configuration which best meets your needs.

T-Rexx Develop scripts in a fraction of the time it used to take using T-Rexx's unique **Real Time Mode**. You can test your scripts as you write them, alerting you to any mistakes instantly.

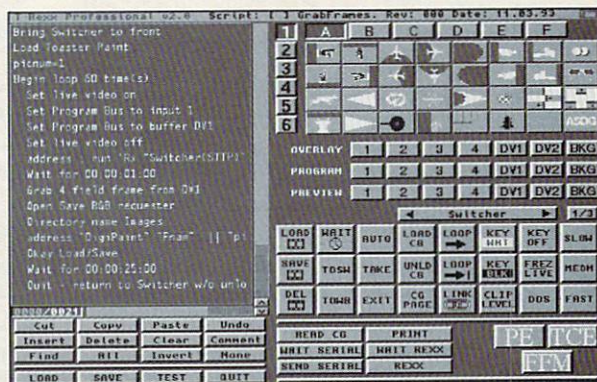
T-Rexx Using one consistent, easy-to-learn user interface, you can control any program that is ARExx compatible or any device that can

accept commands via a serial or parallel port. *Your entire studio, not just your Toaster, can be controlled by T-Rexx* giving you more time for producing results instead of hunting for solutions.

Includes support for the following products: AmiLink, Art Department Professional, BCD-2000A, DQ-Taco, MediaPhile, MorphPlus, PC-VCR, Personal SFC II, Personal TBC III, Pixel 3D, SunRize Studio 16 and VISCA.

T-Rexx T-Rexx allows you to create **interactive or automated multimedia presentations** by linking the Video Toaster to other hardware and software products. T-Rexx's ability to be synchronized to events from the GPI, serial port, parallel port, keyboard, ARExx or timer means you've got the widest array of options available for your creative use. T-Rexx can even **automate the recording of your finished presentation** (including audio) onto video tape or single frame recorders.

T-Rexx T-Rexx provides powerful batch processing tools which save you **time and disk space**. Process images as they're produced automatically, without having to store intermediate results.



T-Rexx Your script is shown in plain English on T-Rexx Professional's main screen.



T-Rexx Framestores can be converted to/from RGB, previewed and organized using FramestoreFM.

T-Rexx Professional

T-Rexx helps you get the most of your system investment because an integrated system is greater than the sum of its parts. T-Rexx Professional is the Toaster System Integrator!

ASDG

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T-Rexx Professional is backed by ASDG, a solid company providing innovative products and quality customer support since 1986.

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NEW PRODUCTS

and other neat stuff

Pro Fills Volume 3

JEK Graphics is proud to announce the release of Pro Fills Volume 3 (\$49.95) for the Amiga. Pro Fills Volume 3 is a powerful stand-alone application for creating full color overscan background screens for use with any Amiga IFF application. Over 12,000 backgrounds can be created instantly from a selection of 139 patterns and textures and 87 different palettes which include 27 AGA palettes designed for 24-bit applications. The manual includes professional tips, illustrated tutorials, and printed examples of each pattern and texture. Pro Fills is compatible with all known Amiga graphics software including The Video Toaster, DCTV, and DeluxePaint IV. JEK Graphics, 12103 South Brookhurst St., Ste. E-125, Garden Grove, CA 92642-3065, (714) 530-7603. Inquiry #209

Rainbow III

The Rainbow III (\$2299) is a powerful graphic board for all Amigas with a 32-bit Zorro III bus. Its state-of-the-art video controller permits to program display resolution and color depth depending on the application. By supporting the Zorro III bus, the board offers enough performance to satisfy the requirements of fastidious applications. Thanks to the included EGS library system, a lot of applications are already available today, and porting existing software to the graphic board is simplified by Amiga-compatible function libraries. The combination of high, flicker-free resolutions and the included Intuition driver make the Rainbow III a dedicated tool in the domain of DTP and CAD. Also, by providing true-color graphics capabilities, the Rainbow III offers

the solution for high-quality image processing. *Activa International, PO Box 23260, 1100 DT Amsterdam Zuidooost, The Netherlands, (011) 312-0691-1914. Inquiry #210*

Rainbow III & Rainbow VideoLayer

The Rainbow III and the Rainbow VideoLayer come with a complete software package. This Enhanced graphics system incorporates a windowing system that presents the user of EGS programs with a comfortable graphical user interface. By using the Intuition driver it is possible to use AmigaDOS 2.x/3.x programs that run on the Workbench with hi-res, flicker-free displays. The package includes two paint programs—TVPaint and PAINTER—as well as DIA, a powerful slideshow program. *Activa International, PO Box 23260, 1100 DT Amsterdam Zuidooost, The Netherlands, (011) 312-0691-1914. Inquiry #211*

Rainbow VideoLayer

The Rainbow VideoLayer is the answer to the questions of many customers for powerful graphic board in the domain of video and animation. With its Amiga-compatible video output, the board provides a link to existing external genlocks and other video equipment. The VideoLayer also comes with the EGS library system. By this means, it is possible to drive several graphic boards simultaneously in one host computer. The unique feature of the Rainbow VideoLayer is this layering system: the graphic output of 8 to 24 bit is completed by 4-bit Amiga overlay. *Activa International, PO Box 23260, 1100 DT Amsterdam Zuidooost, The Netherlands, (011) 312-0691-1914. Inquiry #212*

RPaint

MegageM is pleased to announce the release of RPaint (\$79.95), a full-featured paint program with full ARexx capabilities. RPaint supports the full range of Amiga ECS graphics modes with the exception of HAM. RPaint's high-speed ARexx support lets you create real-time animated graphics

and text for presentations and seamless integration with other Amiga ARexx applications such as BarPro, AmigaVision, and many more Amiga ARexx-compatible packages. RPaint is a highly flexible paint package whether it is used interactively or by programmed control. *MegageM, 1903 Adria, Santa Maria, CA 93454, (805) 349-1104. Inquiry #213*

Scenery Animator 4.0

Natural Graphics has released Scenery Animator 4.0 (\$99.95), a major upgrade to the previous version. It is a powerful Amiga 3-D program that renders and animates real-world and imaginary fractal landscapes. The software uses data from the U.S. Geological Survey to photorealistically recreate landscape scenes, complete with trees, clouds, lakes, oceans, and snow.

A major new feature is the ability to import, position, and render 3-D objects in landscape scenes. Once loaded, the objects may be positioned by simply clicking over a map of the landscape. The new software with rotate, re-size, and animate 3-D objects. Several ready-to-use objects are included with the program. *Natural Graphics, 4603 Slate Court, Rocklin, CA 95677, (916) 624-1436. Inquiry #214*

Syndicate

The setting for Syndicate (\$49.95) is a grim and dangerous future world some time after the Corporation Wars. The world's multinational corporations grew to such an extent that their power began to rival that of small countries. Before long, the corporations owned the small countries and corporate influence was felt at the highest level of world government. Then they developed the CHIP—a technological revolution better than any drug.

Before long the corporations are at war with each other, battling to monopolize CHIP manufacture and toppling nations and governments in the process. Soon the crime Syndicates infiltrate the boardrooms and become the controlling force all over the globe. The player takes the role of a young

executive in one such Syndicate. From his control platform in an airship high above the city, he observes as his agents spread the shadow of the Syndicate terror in a bid to conquer territory after territory, oust the rival syndicates, and strive for world domination. *Electronic Arts, 1450 Fashion Island Blvd., San Mateo, CA 94404, (415) 571-7171.*

Texture Heaven

Asimware Innovations is proud to present Texture Heaven. Texture Heaven is a CDROM disc crammed full of 24-bit color IFF textures and images. All images are 768 x 480 pixels. Eight-bit color preview images and thumbnail previews are included for all images. Rounding out the disc are 135 symbols in black and white. Texture Heaven is perfect for 3-D ray tracing, multimedia, and video applications. *Asimware Innovations, 101 Country Club Dr., Hamilton, Ontario, Canada L8K5W4, (905) 578-4916. Inquiry #215*

Time Base One

IKON Video has announced the release of a new high-performance, low-cost, multipurpose Time Base Corrector. The new Time Base One (\$1895) includes infinite window memory, full frame or field freeze, dual switch selectable inputs, 5.5MHz bandwidth, composite and Y/C input and output with full transcoding, and other more. There is an internal Black Burst Generator with BNC output and Genlock input.

The front panel controls provide both Preset and Manual Proc Amp adjust, SC and H Phase adjust, and an Operate/Bypass switch. The system includes an automatic supply for stand-alone operation. *IKON Video, Inc., 1241 Hyde Park Dr., Santa Ana, CA 92705, (714) 731-7507. Inquiry #216*

VTclock

ZEN Computer Services are introducing VTclock, an Amiga-based indent clock of the sort known by video editors everywhere. The program has six display pages, each of which can be configured either as a clock or as a

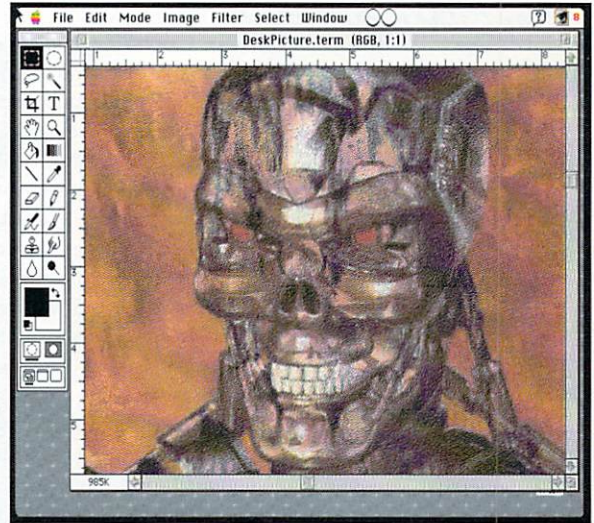
The World's First Multi-Platform Emulation System!

EMPLANT™

EMPLANT is a hardware/software product that is designed to allow the emulation of virtually any computer using the Amiga. A simple software driver and ROM(s) from the computer to be emulated are all that is required! Custom programmable logic allows the EMPLANT hardware to actually become the exact hardware of the computer it is emulating. Multiple emulation modules can be run at the same time using a single EMPLANT board!

Full color MAC IIx emulation!

Support for up to 16 colors is provided for non-AGA machines. A4000 owners can use a full 256 colors! Support for the Retina Video board allows you to have a **16 million color** Macintosh! Utilities Unlimited, Inc. is working closely with other video board manufacturers to provide support for their video products, such as: The Resolver, Firecracker, EGS, Domino, Rainbow II/III, Merlin and many more! Support for AMAX formatted floppies and hard drive partitions, MAC hard drives, SyQuest cartridges, AmigaDOS devices (RAD, VD0, DH0, etc.), and MAC floppies (requires SYBIL hardware, sold separately) is provided with easy to use setup menus.



EMPLANT running Adobe Photoshop in full color!

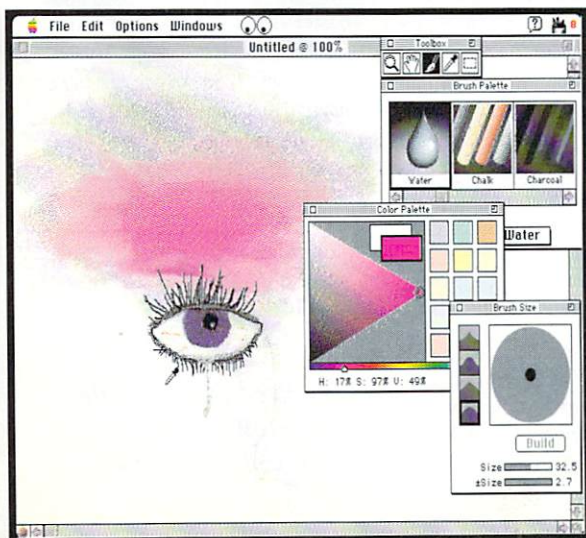
They said it could never be done ...

Like ALL of the emulation modules that will be released for use with the EMPLANT hardware, the MAC IIx emulation module **MULTITASKS** with the Amiga's operating system! You can simply pull down or flip screens and get back to the Amiga side! ...and the MAC stays running at full speed! Speaking of speed...A 25Mhz A3000 runs the MAC IIx emulation exactly twice as fast as a real MAC IIx! Just imagine the speed of an '040 Amiga! The emulation runs ALL known MAC programs, and in FULL color, (if the program supports color)...and all while **MULTITASKING** with the Amiga!! (MAC IIx emulation module *requires* an accelerated Amiga - 68020 or 68030/68040 w/MMU) and 256K MAC ROMs (not provided). Not all emulation modules will require accelerated machines. Four megabytes of memory is recommended for use with System 7.

Future emulations...

Since the EMPLANT's hardware is so versatile, a completely new and different computer can be emulated by just changing the emulation software patch and the ROM(s). MAC QUADRA, Mega ST, IBM AT (386/486), C64/128, Atari 400/800, and even game machine (Genesis/SNES) emulators are planned in the near future.

Utilities Unlimited, Inc. offers four different EMPLANT versions: BASIC EMPLANT system, OPTION 'A' - BASIC EMPLANT system with dual high speed serial ports/AppleTalk support, OPTION 'B' - BASIC EMPLANT system with high speed SCSI interface, and DELUXE - BASIC EMPLANT system with both dual high speed serial ports/AppleTalk support AND high speed SCSI interface.



EMPLANT running Fractal Design Painter in full color!

BASIC EMPLANT system - \$279.95
OPTION 'A' EMPLANT system - \$349.95
OPTION 'B' EMPLANT system - \$349.95
DELUXE EMPLANT - \$399.95
SYBIL Hardware - \$99.95

Please add \$10.00 for shipping and handling (all orders are shipped via UPS Blue label). C.O.D. Fee - \$5.00.

All EMPLANT packages described above come with MAC IIx emulation software and necessary device drivers. ROM(s) are not shipped with this product. Sources available upon request. Dealer inquiries welcome! Foreign dealers welcome!

Utilities Unlimited, Inc.

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NEW PRODUCTS

and other neat stuff

scratchpad for simple captions. The clock pages feature a 30 second analogue clock together with seven lines of indent text on the right-hand page. In scratchpad mode, the seven lines of text extend across the full width of the screen. In addition, the program can generate standard Color Bars and 1KHz tone, either together or independently of each other. *ZEN Computer Services, 2 Silver Birch Grove, Swinton, Manchester M27 1FS, (011) 44-061-793 1931. Inquiry #217*

•Other Neat Stuff•

Amigaman After Dark

Computer Basics, Inc., d/b/a Amigaman, announced today that their new Amiga Users' bulletin board, "Amigaman After Dark," is on-line. Users can log on from any computer using 300 to 14,400 baud modems to examine topics exclusively for Amiga lovers. "Amigaman After Dark" is on-line 6 P.M. to 9 A.M. EST M-F, 24hrs Sat. and Sun. 4129962-0961. *Computer Basics, Inc., 1490 N. Hermitage Rd., Hermitage, PA 16148, (412) 962-0533. Inquiry #218*

AsimCDFS Update—v 2.0

Asimware is proud to present AsimCDFS 2.0. AsimCDFS (\$79) has evolved from a sophisticated CDROM FileSystem to a total CDROM solution. In this version, numerous options have been added and performance has been increased. The AsimCDFS 2.0 package, which consists of AsimTunes, AsimCDFS, AsimPhoto, FishMarket, and a Preferences Editor, allows the user to access most CDROM software available for the Amiga.

AsimCDFS requires AmigaDOS 2.0 or higher. *Asimware Innovations, 101 Country Club Dr., Hamilton, Ontario, Canada L8K 5W4, (905) 578-4916. Inquiry #219*

Commodore News

CBM, Inc. and The Service Management Group, Inc. announced an outsourcing agreement in which the SMG will provide all post sale support to Commodore resellers, OEMs, VARs, and end users. Under the terms of this agreement, the SMG will administer the U.S. warranty program for Commodore. The SMG will also act as the U.S. distributor for Commodore. CBM also announced that it is unbundling end user product support offerings. CBM decided to restructure both the Commodore Express™ and Gold Service Programs. These programs will now be unbundled, permitting Commodore customers to select the service level that best meets their individual needs. *Commodore Business Machines, Inc., 1200 Wilson Drive, PA 19380, (215) 431-9100. Inquiry #220*

GMR Productions

As of August, GMR Productions will take over sales and distribution of all Vortex products for the U.S. and Canada. GMR welcomes dealer inquiries. *GMR Productions, 3835 Richmond Ave., Ste. 138, Staten Island, NY 10312, (718) 967-1509. Inquiry #221*

GVP Fixes Bug

GVP announced that a compatibility problem between Digital Processing Systems' Personal Animation Recorder and GVP's G-Force040 Accelerator for the Amiga 2000 has been solved. Customers currently suffering a compatibility problem should contact DPSTechnicalSupport at (606) 371-5533 for more information. *Great Valley Products, 600 Clark Ave., King of Prussia, PA 19406, (215) 337-8770. Inquiry #222*

GVP Sharpens A2000 Accelerator Offerings

GVP announced of July 9, 1993 that it will no longer manufacture their

25MHz and 50MHz 68030-based "Combo" accelerators for the A2000. GVP continues to manufacture the extremely popular 40MHz 68030 "Combo" accelerator and the powerhouse 33MHz 68040 G-Force accelerator for the A2000. *Great Valley Products, 600 Clark Ave., King of Prussia, PA 19406, (215) 337-8770. Inquiry #223*

HarmonySoft

HarmonySoft has a new InterNet e-mail address. The address is: Harmony@ccsg.tau.ac.il. Full Arabic support (as well as Syriac and Farsi) has been added to the new version of Rashumon. This additional feature is free of charge and includes keymapping support, keyboard stamps, and full instructions. A special option for translating Rashumon's files into Scala Lingua script file format, has been added to version 2 of Rashumon. Page layout, color palette, text, fonts, attributes, tab-stops, margins, and line spacing are all translated to the new script file. This file can then be loaded from Scala for video, multi-media, animation, and titling. *HarmonySoft, 69 Jabotinsky St., Givatayim, Israel 53319, (011) 927-331-5967. Inquiry #224*

ImageFX Update

Highlights of this comprehensive upgrade include faster global operation, multilevel UNDO, macro recording, and aspect lock. In addition, users can expect improved real-time feedback for all painting tools, new drawing tools, and more crazy effects. Moreover, there are dozens of new loader and saver modules, extended support for the new Epson 600 and 800 series scanners, plus Framgrabbers like the VLAB and PP&S 256. In an effort to stretch compatibility, ImageFX 1.5 now directly supports the OpalVision and Retina display boards. *Great Valley Products, 600 Clark Ave., King of Prussia, PA 19406, (215) 337-8770. Inquiry #225*

Oxxi Updates

Oxxi is pleased to announce the shipment of new version 1.3 of the SBase Professional 4 and SBase

Personal 4. The Superbase product line is being renamed SBase with this release. Many exciting new features have been added to this release including compatibility with AmigaDOS 3.0 and the new AGA chipset for the A1200 and A4000. Many areas have been improved, including printing and form design. Version 1.3 is compatible with files created with earlier versions of the programs. This applies to both the Professional and Personal versions of the program. *Oxxi, Inc., PO Box 90309, Long Beach, CA 90809, (310) 427-1227. Inquiry #226*

Project-X Revamped

Project-X has been revamped and tweaked. Rookie mode now allows younger (or older) players to reach the fourth level, weapons are more balanced and you never get left with pitiful weapons—a major criticism of the original version. Using a new disk system Team 17 has managed to squeeze the game onto three disks. *Team-17, Marwood House, Garden St., Wakefield, West Yorkshire, WF1 1DX, (011) 44-924-291-867. Inquiry #227*

The Video Guide to ToasterVision

An in-depth tutorial videotape (\$49.95) entitled "The Video Guide to ToasterVision," is now available from Toaster Crustaceans. It is an easy-to-use guide to the five modules of ToasterVision: Project Manager, ToastMaster2, WipeMaster2, FrameStore Catalog, and FrameStore Manager. Practical examples and tutorials highlight applications of ToasterVision's individual modules throughout the video. *Toaster Crustaceans, 1730 Arcane St., Simi Valley, CA 93065, (805) 522-4864. Inquiry #228*

New Products and Other Neat Stuff is compiled by Elizabeth Harris.

How to Expand Without **STRETCHING** Your Budget

Since 1986, DKB has been a leader in the creation of peripherals for the Amiga. We thought you'd like to know why...

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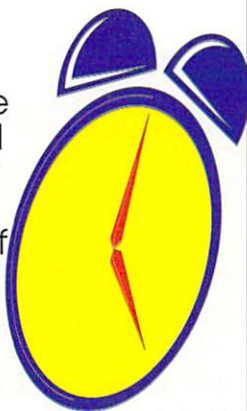


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From the original Insider for the Amiga 1000 to the MegAChip 2000/500 and beyond,

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50240 W. Pontiac Trail
Wixom, MI 48393

REVIEWS

Retina

by Douglas J. Nakakihara

MOST 24-BIT DISPLAY CARDS do not allow you to view Amiga applications on them unless the application is specifically written to support the hardware. This generally requires a two-monitor or switchbox setup. However, the Retina from MacroSystem offers a single-monitor solution. Besides its own proprietary display modes, Retina smoothly emulates all native Amiga screens, including—hold on to your hats—AGA on a non-AGA machine! Resolutions up to 2400 x 1200 are featured. 1280 x 1024 is the maximum resolution for a 256-color, non-interlace display, 2400x1200 interlace; 1080 x 1024

for 65,000 colors; and 800 x 600 for non-interlace 24 bit, 1152 x 862 interlace. Display modes can be interlaced or non-interlaced—no de-interlacing device is needed! Note that maximum resolutions also depend on the capabilities of your monitor.

The Retina fits in any Zorro II/III slot and does not require the video slot. Installation is pretty much plug and go. The board is available in 2MB (\$599) or 4MB (\$699) configurations. A Retina Pro version (\$999) is also available which includes a copy of TV Paint. It is compatible with most multi-scan and VGA monitors, includ-

ing the Commodore 1950 and 1960. Retina requires 1MB of chip RAM, 2MB of fast RAM, and a hard drive.

Configuring Retina to your monitor is a simple matter of selecting your monitor, or one whose specs closely match yours, from a list. This will determine what display modes will be available for use.

Screens & Display Modes

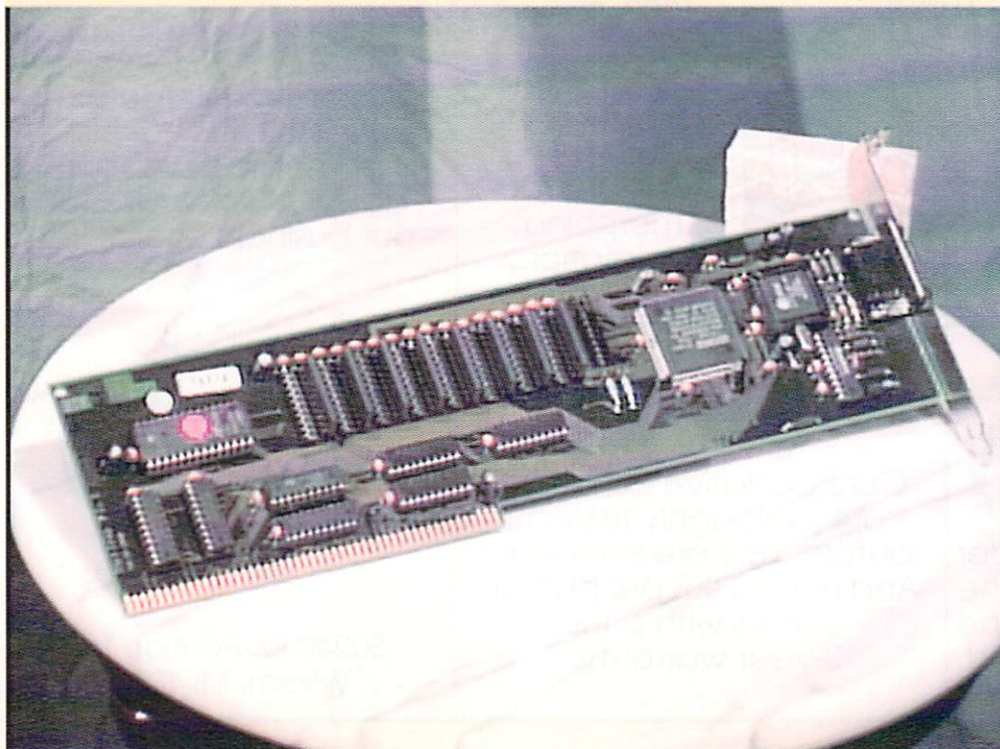
Most programs open their own screen, unless they open a window on an existing screen like Workbench. Retina keeps a dynamic list of all program screens opened. Screens are identified by their public, screen, and program names. Except with public screens, identifying a screen by name is not an exact science. However, this three-way approach should cover just about any circumstance.

The reason Retina tracks screens is that it needs to determine what display mode to use when a screen is opened. So if a program normally opens on a 640 x 400 screen, you'd probably want a display of comparable size. If a screen has not been defined before, it receives the default settings. Using a group display mode for the default works best, since it lets the software choose the optimum setting. You can always manually set the desired display mode.

Incompatibilities

Programs that use "illegal" display routines may work on the Retina by using the refresh option for the screen. This option will read the settings from the graphic chips and transfer them to the Retina. This can be done at selectable intervals, but steals valuable CPU time.

Programs that work directly with the Amiga's graphics chips, like many games, will prob-



ably not work on the Retina at all. However, there is a provision that allows screens to be sent to the Amiga video out instead of the Retina. Obviously, this will require either using a separate monitor or a switch box.

Programs using multiple-overlapping screens, like *ImageFX* from GVP, will not work properly either. *ImageFX* works fine, however, if the Workbench screen option is used. I have been told that GVP is considering making a version that uses windows on a single screen.

More Resolution and Colors, plus AGA Emulation

Workbench runs great in high resolution. On a standard 13-inch monitor, 800 x 600 gives you a legible screen, with nearly twice as much space as a standard 640 x 400 display. Using the AutoScroll option found in the Amiga ScreenMode preferences, the Amiga thinks you're scrolling around a screen whose resolution is greater than the display size, but you're not. Believe me, you'll never want to go back to a normal Workbench size.

Retina can trick an application into thinking it is running on an AGA machine. Every screen can be individually set to emulate AGA. When I tried this on the Workbench screen, something magical happened when I ran the Amiga ScreenMode preference utility. The screen mode description now showed that it supports 256 colors and the slider gadget went all the way to 256! Running a utility provided with the Retina proved this by displaying a 256-color palette right on the Workbench. Some of the programs I have been able to run in emulated AGA include *Deluxe Paint IV AGA*, *Art Department Professional version 2.3*, and *Professional Calc*.

Performance

Whether it's on a 4000 or a 2000/3000 with a Retina card, running displays in 256 colors or more slows things down. Even the new Amiga models have display speed problems. A4000 owners are crying for a de-interlacing card because the Double-NTSC displays are so slow, due to DMA contention.

When the Retina display is on, the normal Amiga display is completely shut off. Performance is totally CPU dependent and DMA contention is not a factor. MacroSystem tells me that the display of an Amiga 2000 equipped with a fast '040 CPU will be faster than a 4000's. Even on an Amiga 4000, the Retina display is supposed to outperform a comparable AGA display. I found that for programs that did not require the refresh option, the Retina display on my A3000 was much snappier

than the normal Amiga display. This should hold true for any Amiga model.

Developer Support

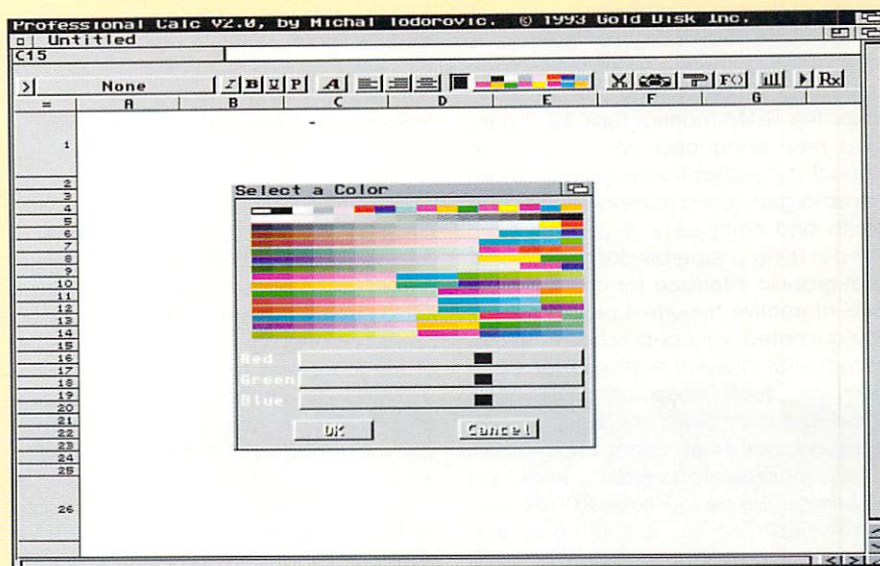
Because of the relatively low cost and high performance of the Retina, many companies are starting to support it. *TV Paint 2.0 Professional* also distributed by MacroSystem, a very powerful 24-bit paint package, now directly supports the Retina. An upcoming version of *VistaPro* from Virtual Reality Labs will directly support the Retina. An *ImageFX* render module has been released and a special version of Black Belt's *Imagemaster* is in the works. I'm told that Scala is also interested.

It is important to note that for a program to be compatible with the Retina, the

will also be support for virtual screens. With an 800 x 600 viewable display, you will be able to scroll around a 24-bit 1280 x 1024 image! The viewable display can be 1280 x 1024 with a whopping 2048 x 2048 256-color image!

This release will also have support for multiple 24-bit windows running on top of a four-color Workbench. The windows can be moved and resized even while showing animations. The incredible part is that Workbench will still operate at top speed because it is using only four colors!

The Retina is an affordable solution to getting a true 24-bit display on the Amiga. The board integrates into the Amiga operating system nearly seamlessly. Though it works great on standard size displays, this



only general requirement is that it be written using standard Amiga function calls. As a result, the program will still operate without a Retina. This should make developers very happy and encourage support for the board. Most of the programs I tried ran perfectly. Of course to take full advantage of the Retina, one must use special coding. Developer information is included right on the disks.

Provided with the Retina is an ADPro saver, which will display any image on the Retina, and a driver for *Imagemaster*. There is also a Real 3D library for direct render support. The Retina can even emulate the Harlequin graphics card by Amiga Centre Scotland. Retina also comes with a nice display utility, a 24-bit paint package, an animation player, and some other utility programs.

Future Release

The next major software upgrade will feature a totally re-written interface. There

product just screams for a large high-resolution monitor. Retina is for all Amiga owners including those with A4000s. It is only the odd program here and there that may still necessitate a two-monitor setup. To date, there is still no 24-bit standard for the Amiga. Retina just might be the one. (A special thanks to Martin and Vince at TS Computers in North Hollywood for repairing my Amiga 3000, allowing me to meet my deadline for this review.)

Retina
MacroSystem
17019 Smugglers Cove
Mt. Clemens, MI 48038
(313) 263-0095
Inquiry #229

HELM

R. Shamms Mortier

HELM is a new entry into the Amiga Authoring System competition, an exclusive club that includes packages like *AmigaVision*, *CanDo*, and *VIVA*. What is an Authoring System? It is software that allows you to create your own programs by means other than standard programming. There is a number of fine Amiga authoring systems out there. HELM, however, adds new tools and techniques to the authoring process, and depends far less upon scripting language and more on graphics.

Because HELM is very comprehensive and extensive, there is a definite learning curve involved before you can use it with ease. The HELM manual tops 330 pages (and new enhanced additions in the manual's tutorial section are going to make it even larger), giving some indication of its depth and complexity. If you are interested in using a superbly designed hierarchical graphic interface for creating your own interactive hypertext programs, colorful animated point-of-purchase displays, instructional interactive media for classroom and public kiosks, animated databases, graphics programs, business software (complete with charts and graphs), self-running presentations, and games, then HELM might just be your ticket to fulfillment.

A good Amiga authoring system should rely heavily upon a graphic interface, so that the user can create wares without the need for mastering the confus-

ing syntax and abstractness of most programming languages. HELM features a collection of exquisite graphics tools, many of which rival and surpass those found in the top Amiga paint programs. This is not surprising because HELM was created by Jerrell Nickerson of Eagle Tree Software, whose previous efforts include the "Butcher" software (one of the first Amiga image processing packages, useful to Amiga artists and animators alike).

HELM's Tools

HELM allows you to create screens of hot graphics and text that are used to trigger Objects into action—loading of animations and pictures, the playing of music and sound effects, screen messages and answers to questions, pop-up menus, and a myriad of other activities. The tools HELM uses to accomplish this are based upon graphically-designed devices. In a sense, HELM can be thought of as an enhanced Amiga paint program, replete with many of the icons and tools you will intuitively know how to use because of your experience with other Amiga paint programs. It also includes a list of Action tools used to create interactive displays, movements, and sounds. Many of the more intricate activities you engage in with HELM also need access to hierarchical lists of descriptors accessed from the top menu bar and from pop-up dialog input requesters. This is

where the learning curve can get a bit steep, so dedicated planning and study is necessary.

HELM creates Books, which is really another name for Programs. Books contain Forms (formats of items the program will use to accomplish its required tasks), and Forms contain Pages. The HELM Book-Form-Page structure can be used to set up hierarchical actions and timed events. Every action and sub-action can trigger its own Amiga graphics and sound as well as text display, and any action can be timed to trigger other actions down the line. The Book is saved and updated automatically when you quit the program. The user concentrates upon two main objectives: the design, creation, and placement of Objects, and the planned Actions that these selected Objects will initiate and trigger.

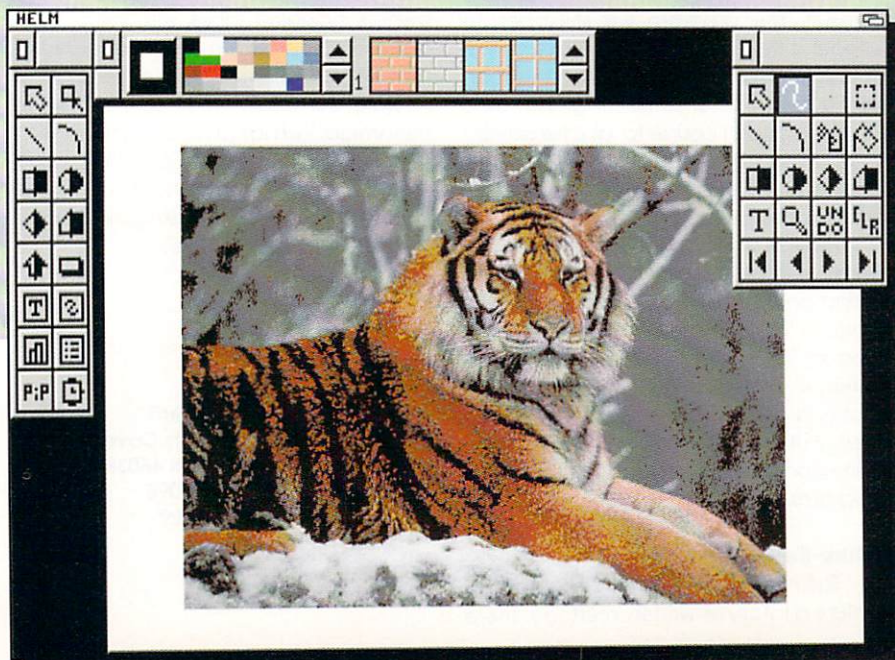
Objects

HELM Objects can be visible or invisible, and can be constructed in any desirable shape and color or pattern. Invisibility is very useful when designing educational software and games, as a user can be asked to click the mouse on certain screen areas until a triggered action occurs. There are full drawing and painting tools used in the design and coloration of Objects in HELM. Many of the tool icons are standardized to represent the same functions of similar tools in Amiga paint programs. The drawing toolbox also contains a separate Selection pointer that allows you to manipulate the objects parameters (name, size, screen position, color, drop shadow size and color, and toggled highlight) with a double-left mouse click. You can also assign Actions to the selected Object with a Shift/Double Click, which brings up an Action List requester.

Objects that are to be painted and drawn upon must contain a specified graphic area where this is allowed to take place. There are more painting options available in HELM than most Amiga paint boxes allow, including: Matte, Color, Copy, Smear, Dissolve, Spare, Cycling, Gradients, Tint, Smudge, Chaos, Count, Custom, Dither, Edges, Mosaic, Sample, Brush Tile and Fill, Translucent, Lighten, Darken, Complement, and Negative. Since all painting takes place in defined graphic areas of a screen, there is no real limit to developing unique screen configurations for your intended program. Objects can be grouped, duplicated, and aligned. Text Objects can also be created, resulting in a HyperText Object that triggers selected actions when clicked.

Actions

Imagefields, those areas of a screen designed and targeted to contain images and painted graphics as well as anima-



tions, can also contain Action data. A Shift/Double Click brings up the HELM Imagefield Action requester. The Action Requester assigns a variety of actions to the targeted Imagefield or button.

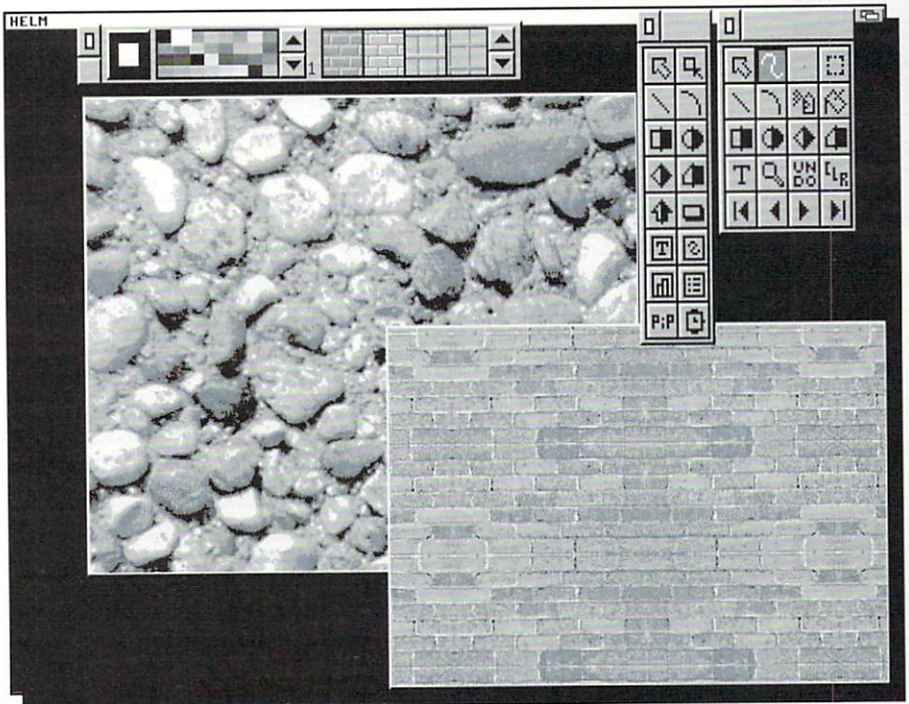
Actions can trigger each other in succession forming a hierarchical script. In this way, a number of audio-visual operations may be set to play in a timed sequence. For instance, you could create an animation of a moving mouth and use it as a Picture action in the display. By then adding a Narrator action, the mouth could speak your selected text from the Amiga screen. A Book like this has obvious implications for Instructional applications, and could also be useful to the Amiga animator.

HELM can print out whole books or just selected fields to your PostScript or other Preferences printer. It also contains a built in capture utility that will grab and import any open screen and place it in a selected graphic area.

Conclusions

This software could play a part in the educational process if Commodore itself was more diligent in addressing the educational market. As a teacher, I could develop a whole library of teaching aids with HELM. As it is, I am thinking of developing a mini-course around HELM to teach basic interactive branching theory. I just wish there were a more serious effort on Commodore's part to enhance its presence in the educational marketplace.

HELM is not perfect, but is going through a whole series of revisions and updates. Users of GVP's IV-24 card are helped in HELM with a special PIP (Picture In Picture) capability that addresses the card. I would like to see the similar attention paid to users of OpalVision, DCTV, Retina, and FireCracker owners in future HELM releases. As a caution, when using



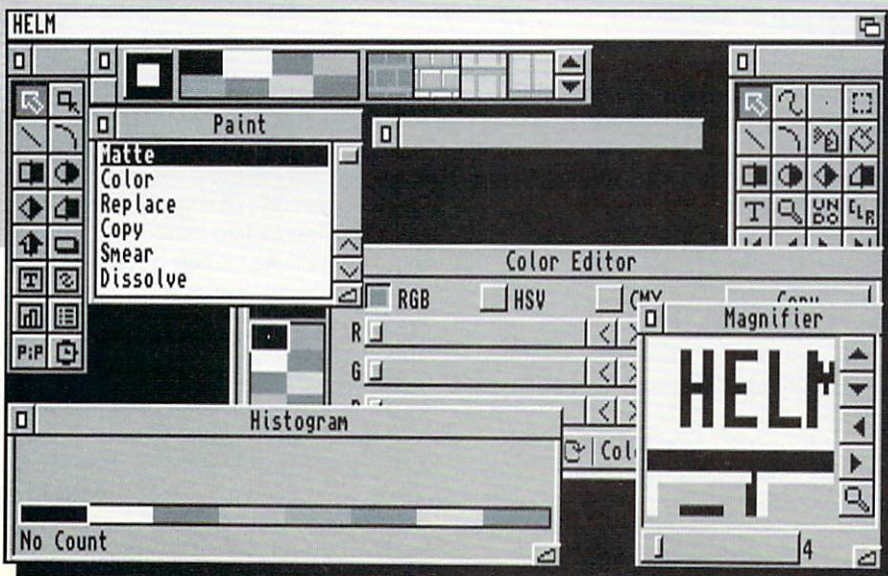
the Display options on AGA machines, stay away from choosing screen modes in parenthesis, but instead choose ones that stand alone. That way, you won't be troubled later by A4000 mode promotion difficulties. This software would also benefit from a library of dedicated drivers for specific industrial quality laser disks and VCRs, so that interactive media presentations would be allowed to access them as needed.

Currently being added at the time of this writing is the ability to create pages in a window on the Workbench, the ability to create objects and groups of objects that the user can animate and pick up and move by themselves, the ability to buffer and play digitized sounds directly from a disk, and full MIDI file support. By the end of

the year, Mr. Nickerson is also planning to add text scrolls and crawls, support for *Sound Tracker* music files, wiring HELM Objects to the fields of database records (so you can create and edit DBase files), and multiple columns in textfields. As an additional request, I would suggest support for Blue Ribbon's *One-Stop Music Shop*.

Mr. Nickerson provides service with a capital "S," a most important consideration when purchasing anything nowadays. I made many calls to him with technical questions and requests for explanations and clarifications. His responses were most helpful and considerate, his attitude patient, and his advice accurate. I have spoken to other users that have received the same consistent consideration, and that's well worth passing on.

HELM comes on five disks which includes the program and copious clipart Books (World Flags, Chinese Signs, Periodic Table, and lots more). It sells for \$129, which is an absolutely ridiculously low price for a very useful HyperText Authoring System in today's marketplace. If you have some ideas concerning unique and original programs that you would like to create, don't pass this software up.



HELM

Eagle Tree Software

P.O. Box 164

Hopewell, VA 23860

(804) 452-0623

Suggested Retail Price: \$129.00

Inquiry #230

DKB1202 Expansion for the A1200

by Henning Vahlenkamp

Well over a half dozen internal expansion boards for the Amiga 1200 are already available or will be soon. With such variety it can be difficult to find the right fit for your needs. The upgrade picture becomes clearer by dividing the choices into two primary groups: full-blown accelerators and memory boards. While accelerators offer huge performance boosts for power users, they can cost more than the computer they serve. On the other hand, memory boards, typically offering a subset of accelerator features such as RAM/FPU/clock configurations, are much less expensive but less powerful too.

If you're satisfied with the A1200's five-fold speed increase over the A500 and can't justify the expense of an accelerator, you may want to consider a memory board instead. Such boards represent good value and provide very useful features for cost-conscious A1200 owners. That point brings me to the subject of this review—the DKB1202.

The 1202 sports a 16MHz 68881 FPU, two SIMM sockets for up to 8MB of 32-bit FASTRAM, and a battery-backed-up clock all on a sturdy, well-engineered board. It accepts standard 1MB 256Kx32 or 4MB 1Mx32 single-sided 72-pin SIMMs—the same used by the A4000—giving you either 1, 4, 5, or 8MB combinations; 2MB isn't possible. The SIMMs must be no slower than the A1200's native 80-nanosecond RAM speed. Even if your dealer doesn't sell the 1202 with any memory, these types of SIMMs aren't difficult to find. Furthermore, package deals consisting of the board and memory are usually available.

Before deciding how much memory you want to add, you should consider the following. The 1202 uses the standard AutoConfig address space from \$200000 to \$9FFFFFF, and only the 4MB SIMMs will autoconfigure here. Since a 1MB SIMM won't autoconfigure, it must be added to the system at \$C00000 by the supplied MagicMem program. Just put MagicMem in your Startup-Sequence or drop it in your WBStartup drawer.

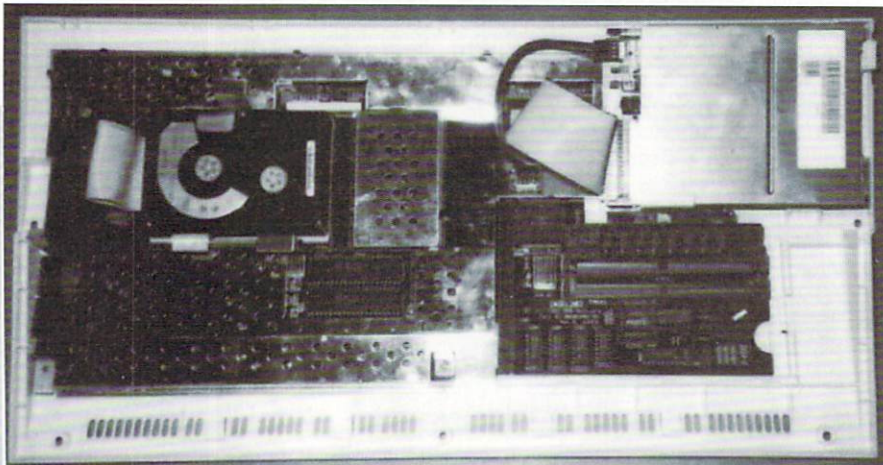
To further complicate matters, the PCMCIA slot, when in use, needs the upper 4MB of AutoConfig space starting at \$600000. So if you use two 4MB SIMMs and PCMCIA, only 1.5MB of the second SIMM will be available, remapped to \$C00000 by MagicMem. MagicMem can detect

PCMCIA, giving you either the full 8MB or 5.5MB. Alternately, you can force the full 8MB of autoconfigured memory all the time, shutting out PCMCIA entirely.

If you have any of the memory remapped to \$C00000, be aware that it will be slow-FAST RAM, not true FAST RAM. The 1.5MB address space from \$C00000 to \$D7FFFF is on the CHIP RAM bus along with the A1200's standard 2MB RAM, rather than the system bus, which contains the autoconfiguring FAST RAM. While the custom chips can't access slow-FAST RAM, the CPU will still be in contention with them to get at this memory when they are very busy, since the CPU must share the CHIP RAM bus with the custom chips in alternating bus cycles. In short, memory in this region will likely be slower than true FAST RAM.

board. Then the clock jumper must be enabled or disabled depending upon whether your system already contains a clock through other means. Now remove the panel underneath the A1200, insert the 1202, and press it firmly on the 150-pin connector. You may want to insert and remove it several times to ensure good contact, getting rid of any flux residue left over from the manufacturing process—a recommended practice.

After installing the 1202 without any problem, I fired up my A1200 and did some testing with AIBB 6.0, the definitive Amiga PD benchmarking program. As you can see in Table 1, my A1200 with a 1202 beat a stock A1200 in every one of the 20 tests, often by significant margins. The numbers are percentages with 1.00 representing 100% of the performance of a stock A1200.



These memory complications aren't DKB's fault, merely side effects of the A1200's 24-bit address space and the PCMCIA implementation. DKB deserves credit since other memory boards like the Microbotics MBX1200 limit you to 4MB of expansion when using PCMCIA instead of the 1202's 5.5MB. Nevertheless, I suspect that most users will decide on either 4MB or 8MB (without PCMCIA), avoiding slow-FAST RAM.

I have no complaints regarding the simple installation procedure. First follow the clear instructions in the manual to set three memory selection jumpers on the

The higher the numbers, the better. I was most impressed by the results of the floating point tests. For example, the 30-fold speed increases in the TranTest and FTrace tests plus the 60-fold increase in the Savage test were absolutely amazing.

Averaging the System Combined Evaluation Indices yields 2.07. So overall, the 1202 about doubles the performance of the A1200. While a lot of this improvement is due to the 68881 FPU, the 32-bit FAST RAM was also a significant factor. As I mentioned earlier, the CPU doesn't contend with the custom chips for FAST

memory, so having it improves performance. Also, the 32-bit nature of this memory allows for faster access, unlike 16-bit PCMCIA memory, which I don't recommend because it slows down the machine.

Along with the high-quality 1202 board you get an almost equally high-quality manual. You'll find concise, thorough instructions presented in an easy-to-understand style. The only typos I found were an incorrect jumper setting on page 4 and a repeated paragraph on page 10. Correct settings are printed on the board itself.

By the way, if you need more math horsepower, you can get a 40MHz 68882 FPU kit for the 1202 from DKB. The CPU and FPU run asynchronously, allowing you to use blazing-fast FPUs. In addition, the 1202's lithium clock battery should last at least two years, and replacements are readily available at Radio Shack, among other stores.

One small gripe concerns the lack of a memory testing program. When you spend your hard-earned money on megabytes of RAM, you want to be certain the memory works perfectly. To solve this problem, I used MemDiag 1.1 from Fred Fish Disk 214. MemDiag works, but only tests memory it can first allocate.

Overall, the 1202 is a first-class product that I whole-heartedly recommend. Besides its greater memory capacity when PCMCIA is present, two other factors place it a step above its closest competition, the MBX1200. First, the MBX attaches to the A1200 in an awkward upside-down fashion. Second, with just one SIMM socket, the MBX limits your memory choices. The MBX's shortcomings are understandable considering that it was the first internal A1200 expander of any kind. But if you need an inexpensive A1200 expansion solution, the DKB1202 is the best one yet.

DKB1202
DKB Software, Inc.
50240 W. Pontiac Tr.
Wixom, MI 48393
sales (313) 960-8751
tech support (313) 960-8750
fax (313) 960-8752
Inquiry #232

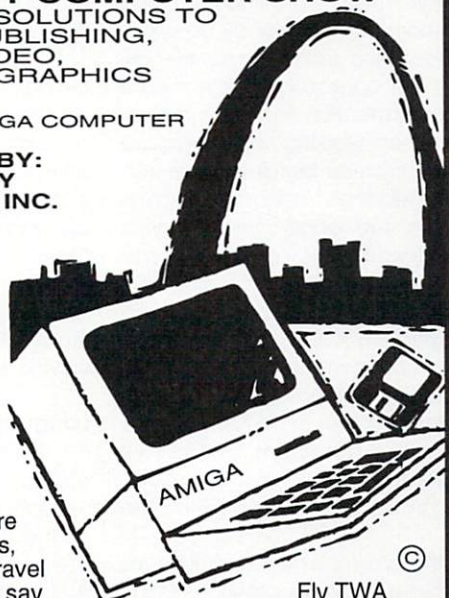
SOMETHING EXCITING IS HAPPENING IN ST. LOUIS

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Cost: \$5⁰⁰ at the door.
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Table 1. AIBB 6.0 Test Results
 base machine for comparison: A1200
 68020 code and A1200 = 1.00 for all tests

Test	A1200+DKB1202	Test	
A1200+DKB1202+FPU			
EmuTest	1.98	Savage	61.65
Writepixel	1.48	FMATH	6.82
Sieve	1.21	FMATRIX	1.68
Dhrystone	1.82	Beachball	10.54
Sort	1.44	Flops	15.26
EllipseTest	1.36	TranTest	31.07
Matrix	1.60	FTrace	30.75
IMath	1.23	CplxTest	2.27
MemTest	2.19		
TGTest	1.25		
LineTest	1.07		
InstTest	2.03		

System Combined Evaluation Indices

Integer	1.67
Graphics	1.39
Floating Point	3.14

Amiga E : Public Domain Programming Gem

by Charles R. McCreary, Ph.D.

For the hobbyist programmer, the power of the Amiga's multitasking GUI is difficult to harness. Successfully developing an application with the user-friendly aspects of the operating system means paying close attention to many details, especially when working with compiled languages. This steep learning curve can seem overwhelming in languages such as C, which are traditionally delivered with many complex support programs. Trying to learn both C and good Amiga programming practices can be an exercise in frustration. Frustration can quickly become surrender when complex programming tools seem slow, even on an Amiga 3000. If it takes several minutes to compile and link a simple windowing program, it seems it will take forever to do a significant project. Isn't there an easier path to hacking the Amiga?

Well, the answer is most definitely yes with a compiler package called Amiga E, a new language concept by Mr. Wouter van Oortmerssen of the Netherlands. Since E was conceived with the Amiga in mind, it is a hacker's dream both in terms of speed and simplicity. This, plus the current version's (2.1b) public domain status (available on Fred Fish disk # 848) makes E a truly painless way to get introduced to application programming on the Amiga.

The E Language Package

The entire E language package is delivered as an archive file about 240K long. It unpacks to a nearly complete development system that will fit on one floppy disk. This is in stark contrast with the current professional development systems that are delivered in multiple disk sets. The one element missing from the package is a text editor for entering source code. The compiler itself is small: it is a CLI-based program about 43K, which I promptly added to my C: directory. Mr. van Oortmerssen provides several essentials for Amiga development: a complete set of interface modules for access to the Amiga system functions (including AmigaDOS version 2.0+), a short E tutorial, a more extensive E language reference guide provided in the form of an Amiga Guide on-line help manual, and a set of simple example programs illustrating the basic concepts of E. Also included with the compiler are several small utility programs such as the module code lister, a disassembler, and some sample ARexx pro-

grams to be used with the CED editor and the compiler.

The sample programs provided with the package show forethought on the part of the author. A great deal can be learned by examining someone else's debugged source code and making modifications to it. In the 'Examples' sub-directory, programs are provided which cover a wide range of topics. Some are CLI-only programs such as a directory lister or the famous *Hello World* program while others, such as the GadTools demo provide insights into the superb features of the language.

Language Features

It is quite remarkable that a compiler so small can be this powerful. Since space will not permit a complete examination of all the capabilities of the compiler, I will mention only some of the most important. Amiga E's features are listed in the compiler documentation which I'll quote in part:

- Compilation speed of 10,000 to 35,000 lines/minute on a 7MHz Amiga 500; 25,000 to 85,000 lines per minute on an Amiga 1200.
- Produces small and fast executables from source code in 'one go:' linker, assembler and other program modules integrated into the compiler.
- Module system for import of library definitions, constants, functions (much like Turbo Pascal Units.)
- All library calls of Exec, DOS, Intuition and Graphics of (AmigaDOS release 2.0+) integrated as system functions into the compiler.

Other highlights include an integrated inline assembler, easy exception (error) handling, and a unique capability called "typed lists" (more on this later.)

From my experience working with E, I have no reason to doubt the claims about its speed. On my 16MHz Amiga 3000, lengthy source code (longer than 5K) compiles to executables in about one second. This holds true for all types of programs, including those that make heavy use of such external libraries as GadTools or ASL. These very same programs can even be compiled on a minimal system. I tested the compiler on a 1MB Amiga 500 with only two floppy drives. Here the compilation

times were greater (about three seconds) but this was due in part to the slow speed of the floppies as compared with a hard drive. Compilation speeds such as these so greatly reduce the edit-compile-link-debug cycle that projects can be completed almost as quickly as with interpreted BASIC.

Amiga E also produces very tight code. A small CLI-only type program such as *Hello World* will compile to about 500 bytes. This seems to suggest that there is very little overhead added to programs in the form of a run-time library as occurs with other languages. The program mentioned above, which uses 2.0 features extensively, compiles to just over 4K.

Perhaps the best attribute of the compiler system is its tight integration of the language definition and the Amiga operating system. As the author states in his documentation, E was conceived with the Amiga in mind. Since Mr. van Oortmerssen wanted to use the best qualities of current procedural languages, any programmer with some background in C, Pascal, or Modula-2 will easily pick up on E's concepts. Of course, the area where E surpasses traditional languages is in the way it simplifies system programming. As an example of this, Mr. van Oortmerssen provides the following complete program in his tutorial:

```
/* Opening a window in E */
DEF w
PROC main()
    IF w:=OpenW(20,11,400,100,$200,$F,'My
first window in E!')
        NIL,1,NIL)
        Line(20,20,50,50,2)
        WaitIMessage(w)
        CloseW(w)
    ENDIF
ENDPROC
```

C and Pascal programmers will certainly feel at home here but will notice the simplicity of the example. Since Exec and Intuition libraries are automatically opened by the compiler, the high-level functions OpenW(..) and CloseW(..) are a part of the language definition. What is even more remarkable about this sample is that it is a complete program, including the dreaded (but quite simple here!) Event-Handler. While this example does hint at the power of E, Mr. van Oortmerssen has built in many

features such as "typeless" variables, typed lists, and ADA-style exception handling.

An example of E's more advanced procedures could be provided in the code sample in the table on this page.

This short program (just about 3K of source code and 3.5K when compiled to an executable) implements a complete demo of GadTools routines as implemented through E. Astute programmers will notice two very important points here: the handling of potential program errors as well as the "on the fly" construction of memory structures.

As a part of E's definition, exceptions can be handled through appropriately named variables. In the code sample, the enumerated list at the beginning of the program anticipates the typical error conditions that could occur: not enough free memory to allocate such intuition objects as screens, windows, gadgets, etc. Where C might handle this type of error through a multiple-line IF clause, E simply returns a named variable to a generalized subroutine.

Another amazing feature of E is the quick, concise method of static structure declaration. Mr. van Oortmessen calls this a "typed list" and it is especially helpful in the construction of GadTools objects such as gadgets and menus. Where calls such as `CreateGadget(A)` might, in C, expect a pointer to a predeclared `STRUCT`, E can use a typed list as a part of the call, putting everything in its proper place.

While E in its current form is quite a powerful programming tool, it is not complete. Mr. van Oortmerssen has stated he will add other capabilities to the language: modular programming, a source-level debugger, support for floating point variables, and finally object-oriented language extensions. The author has even hinted at the possibility of increasing the performance of the compiler, potentially doubling its speed. The popularity of E among programmers on the networks may even cause Mr. van Oortmerssen to bring out a commercial version of the compiler. Other programmers around the world have added several utilities to be used in conjunction with the E compiler. Available either as shareware or in the public domain are a development shell and preprocessor. In my opinion, E has all the characteristics necessary to make it one of the top development tools on the Amiga among hackers and professionals.

Amiga E
can be found on
Fred Fish Disk #848

Bernoulli MultiDisk 150

Iomega has brought Bernoulli removable storage options to the Amiga. The Iomega Bernoulli Transportable MultiDisk 150 (\$1099), known as "The Box," is an external removable disk drive. It is designed to be portable and its multiple-disk capabilities allow it to be downward compatible with other Bernoulli removable disks. The drive can handle up to a 150MB removable disk. As expected, this drive is targeted at Video Toaster users and others in need of large amounts of removable storage space.

The Bernoulli 150 offers a wide range of features. The drive offers an access time of 18 milliseconds and a transfer rate of up to 5MB per second, according to manufacturer's specifications. Full SCSI II allows the immediate connection to all Amiga SCSI computers. The Box is also available in its Insider version for internal connection. The ability to read and write other storage sizes of Bernoulli disks has its advantages. The Bernoulli 150 can read, write and format 150, 105, 65, 35, and 90MB disks. It can also read from 44MB disks. This gives the user a range of storage options. This is important since the suggested retail price for a 150MB disk is \$225. The lower capacity drives do not offer the read, write, and format capabilities of the MultiDisk 150.

Setup

Setting up the drive was simple. A SCSI cable is included and the unit is ready to use out of the box, aside from formatting a disk. Commodore's HDToolbox utility is used to get the drive going. The 150 was tested on an Amiga 3000 with 8MB RAM and a 40MB internal drive in address 6. The 150 was configured to SCSI address 1, to allow additional units to be attached. The HDToolbox utility made things easy. On entering the utility, you must select "Read Configuration" from the on-screen choices so that the Amiga may gather the information necessary to perform the drive type change. By next selecting "Change Drive Type," you can easily set up the identification of the device. It is recommended in the Iomega documentation that you change the drive's partitions from the default of two 71MB partitions to one 143MB partition. After you have finished with the basic setup, a reboot of the Amiga will mount the disk. It will show up as a non-DOS disk on the Workbench. Formatting is done using the Format Disk command.

The total setup and formatting took all of 20 minutes. During the initial installation and formatting of our drive, we made a "mistake." We attempted a low-level format of one of the removable cartridges. The disk itself had not been properly set up before the format was attempted and

therefore, the format did not work. We called Iomega for assistance. Their technical support line was very helpful.

Performance

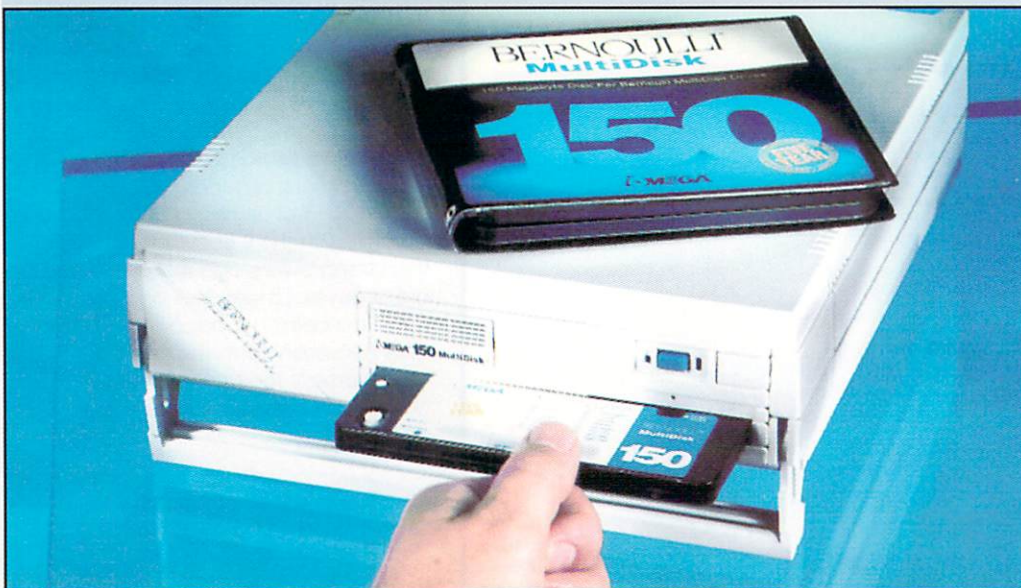
Perhaps the best way to test the reliability of a hard drive is to abuse it. The test cartridge was loaded full with everything from Deluxe Paint to SCALA to AdPro. The drive's access time was excellent, even with 142MB full out of 143MB available. Software installation, copying of large files, and other drive-intensive operations were performed quickly.

The test drive was run for a week, non-stop, and was intentionally erased and reformatted several times during that period. The drive did not fail. The 150MB disks are warranted for five years, showing Iomega's confidence in their product.

Conclusions

There is an obvious need for removable storage solutions for the Amiga. The popular routes, such as Syquest removables, provide some options but are often not up to par for frame storage and animation playback. This drive is perfect for any Amiga user looking for a convenient storage solution. The MultiDisk 150 offers the user excellent disk access speed and a range of storage options that make the drives very appealing.

Bernoulli MultiDisk 150
Iomega Corporation
 1821 West Iomega Way
 Roy, UT 84067
 800-456-5522
 Inquiry #234



The MultiDisk offers the Amiga user a wide variety of storage options.

SceneryAnimator 4.0

A Light-Year Leap in Scenery Generators

by R. Shamms Mortier

SceneryAnimator is Natural Graphics way of addressing animation as well as rendering in several Amiga modes. Before this 4.0 release, the last one was versioned as 2.2. When a developer jumps versions from 2.x to 4.0, it can be seen as an indicator that there have been major changes, as is the case of *SceneryAnimator* 4.0.

Fractal scene renderers and animation programs have received much attention in the way that they render DEM files (Digital Elevation Maps). DEM files available from the National Geographical Survey offices for many U.S., global, and even some planetary locales (thanks to NASA and JPL). The elevation maps are usually accurate for geographical data plus/minus about 10 meters, meaning that a fairly good representation of terrain is possible by utilizing the data in computer renderings. There are a handful of Amiga programs that can access this data directly, producing awesome fractal scenery, much of it recognizable by users familiar with the specific geography in question. *SceneryAnimator*, and its progenitor *SceneryGenerator*, is this kind of software, as is *Vista* and *Vista-Pro* and other less known packages like *Panorama*.

As with all areas of computer graphics, the competition is stiff. Every time a major vendor ups the ante by adding one feature or another, the competition replies in kind. Look at *SceneryAnimator* and its competition, *Vista Pro* from Virtual Reality Labs. They both access DEMs, they both allow the addition of trees, they both supply animated paths, and more. But *SceneryAnimator* may have just lapped its competition with the release of 4.0. Since imitation is the so-called "kindest form of flattery," only time will tell.

What's New in 4.0

To begin, the hardware requirements of SA4 let you know right off that A-1000 owners and minimal expansion machines are not to apply. SA4 requires AmigaDOS 2.0 or higher (I tested it thoroughly on my A-4000 with DOS 3.0). Accelerators and 68040s are strongly recommended, but not required. You also need at least 3MB of RAM available, and more for the super hi-res rendering modes. Installation is a simple drag-to-drawer affair. The program itself is only 288,000 bytes thick, amazing when you consider its power. All of the needed libraries are supplied by the WB 2.x and 3.0 software already in place.

Let's talk about the best news concerning this 4.0 release. SA4 can now incorporate 3-D objects in the *VideoScape-3D* (ASCII format) object file format. Since programs like Axiom Software's *Pixel-3D Pro* can translate just about any Amiga 3-D object into that same format, that means that many of your 3-D objects can now

appear amidst the spectacular scenery of SA4 environments. There are limitations, however. SA4 demands that the incorporated objects have their polygon "normals" facing in the way that it expects, or the objects will not be recognized. I successfully used *LightWave*, *PageRender-3D*, and *VideoScape* object files. *LightWave* objects can be translated to the expected ".GEO" format by either *Pixel-3D Pro* or *InterChange* from Synthesis.

VideoScape files are already in the .GEO format. *PageRender-3D* files need to be translated with *InterChange*, as only it has the necessary converter. Of all of these, my favorite is *PageRender-3D*, as it allows definitive coloring as well as modeling. PR3D

place a Redwood or an Oak on a 12,000 foot peak?...no problemo. Unlike other 3-D objects, trees do not have to be loaded since they are a part of the program itself, but they cannot be resized or rotated once placed. Both automatic and manual tree placement may happen in the same SA4 scene. Placement of both trees and imported .GEO objects is accomplished in the elevation or top view of the scene.

Also changed are the Camera Lens and Direction indicators, which may now be locked in position for smoother animation transitions. With these new features there will be less unwanted surprises in your finished animations.

SA4 now supports the new Amiga AGA



is no longer on the market, but you may be able to find it in an old box or purchase it from an Amiga friend. The developer promises to place the code in the public domain soon. Before we get too specific about how to add objects to our landscapes in SA4, let's look at the other new features.

SA4 now allows you to manually place 3-D trees (Oaks or RedWoods) in the landscape, as well as handling these trees in the familiar fashion (by inputting a percentage number that relates to coverage, and using indicators that limit tree placement to certain elevations). You want to

modes by rendering in 256 colors and HAM8. These are displayed on the screen when completed. But there's more. SA4 will address these modes and allow you to save the pictures in them even if you aren't currently running an AGA machine. Now that's planning for the future, since many Amiga animators are still saving their pennies to upgrade to the new AGA machines.

Both landscapes and objects can now have their "back faces" toggled on. This means the chance of getting a strange hollow rendering when you rotate these objects is less likely. It doubles the rendering

time, but is necessary in some situations. Even with this capability, however, care still has to be taken that the .GEO files being ported over are correctly modeled and/or translated.

A lot of energy has gone into changing the way scenes are perceived and manipulated on the main screen in SA4. The "Move Square" (from earlier versions) has been replaced by six new direction buttons and a distance field. These allow you much more intuitive control over the placement of the composition. The camera can be moved in any direction quite easily because of the addition of these new control features.

Now SA4 can produce night skies, replete with stars. Stars have real-world data, and are treated like 3-D objects. The Night button is simply toggled on in the Sky Control Panel, and then a .GEO Star Object file is loaded. Each click on the elevation map view places a star in the night sky. I discovered that a landscape rendered with the starry sky can manifest a moon-gray color if you play with the palette a little (or by setting the snow to generate at a very low level, covering the landscape). Trees seem to confuse the appreciation of the night sky feature, so I turned off the tree generator.

DEM Landscapes now may also be loaded from the Map screen, allowing you faster placement of the Camera angle and other imported objects. The main screen's preview window is now noticeably faster in rendering time. The only slow down comes with the manual placement of trees or the addition of 3-D objects. The algorithm that addresses the automatic banking of the camera has been redone, and is much smoother.

Using VideoScape 3D Objects

It's interesting that the VideoScape format has become the standard 3-D object pathway in several Amiga 3-D programs, in that it can be both loaded and saved by many of them. Perhaps it's because it is both code-accessible and because it interfaces so well with Toaster applications with LightWave. There are volumes of VideoScape .GEO object disks in the public domain. Toaster users have additional dozens of LightWave objects on file, which can easily be transformed by Pixel-3D Pro and Synthesis InterChange into the .GEO format that SA4 expects.

You have to remember to adjust the Light settings before the final rendering of .GEO objects in SA4. You can tell immediately when they are illuminated poorly by looking at them on the main preview screen, because they will look like dark silhouettes. Also be careful about trying to use .GEO objects with thousands of polygons, like the Beethoven or Triceratops files from LightWave. These objects have so many polys they will not render as lighted objects, at least in this SA4 revision, but are written to the landscape as dark blobs. When playing with the way objects appear in the light, adjust the light until you get the detail you want on the main preview screen. Of course, some darker settings can give drama to your picture, so adjust the lighting according to your needs.

The initial process for loading a 3-D .GEO object is simple. Just select Object/Load from the map screen, and you're presented with a requester of SA4s object files, as well as a standard requester that allows you access to all disks on the system. I experimented by using the X-15 .GEO file from Pix-Pro, and saved it to RAM as a VideoScape.ASCII file. Then I loaded it

into SA4. Objects are in proportion to the huge dimensions of the visible landscape, so I used SA4s Object-Size controls to enlarge the plane about 20 times. I then tilted it on the North axis 40% so that its shape could be better appreciated when rendered on the main preview screen, and changed the color of the sky to my liking. I played with the altitude of the object, raising it off of the ground.

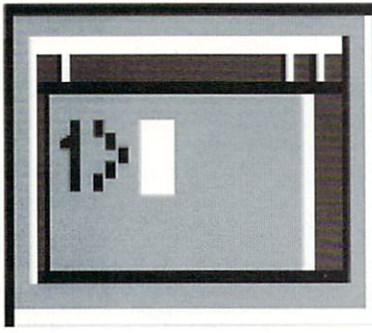
When you load in any object, its object center is always placed at the ground level where it is positioned. This means that everything has to be raised (on the Z-axis) in order that it can be seen above ground. I imagine a nice animation could show something rising up from the ground itself. There is a toggle on the elevation screen that shows the settings for the Object when it is chosen, or for the camera when it is selected. This way, you can see the altitude of the ground plane compared to that of the positioned object, and can also distinguish the other settings for both camera and object (East/North headings, Direction, Pitch, and Speed).

The visual interface for banking and altitude controls, new to 4.0, helps a lot when positioning objects. Another great feature of SA4 is that any object that you change and then name differently is saved automatically to the object directory for further use. This means that when it comes time to animate features, they can be independently selected, though all may be clones of the same object.

It's probably going to be only a matter of time before Natural Graphics adds even more features to Scenery Animator, but until then the competition has their work cut out for them. Various DEM files are still available on disk that cover most of the scenic wonders of the United States. My favorite way to generate scenic environments, however, continues to be using the random fractal generator on board to design my own worlds from both random seed numbers and alterations of the VE Factor (changing the proportion of the Vertical Elevation). As part of this release, Natural Graphics is making a serious upgrade offer to all Amiga users of any Amiga fractal scene generator. Just send in the cover of the manual of the other scene generator (this also applies to any paint program software manual cover) along with \$40, and get a copy of SA4 in return. Users of registered previous versions of the program can get it for \$35. With the upgrade, you can get scenery disks for half price. The suggested list price of SA4 is still \$99.



Natural Graphics
4603 Slate Court
Rocklin, CA 95677
(916) 624-1436
(916) 624-1406 FAX
Inquiry #231



cli by Keith Cameron directory

Writing Script Files, Part 2

If you remember from last month, I described script files, their purposes, and ways to write simple ones. This month I will begin to cover some of the more complex aspects of script writing. Let me warn you that this can be confusing. Those of you who have experience with programming will see the similarities between programming and script writing and will have no trouble whatsoever. If you are new to computers and have never dabbled in programming, though, this may be rather complicated.

First of all, I will assume that anyone reading this article has read my column before. I assume that you have at least some familiarity with most AmigaDOS commands and a text editor. These items have been covered in the past year or so.

There is a select group of AmigaDOS commands specifically used for writing script files. Among these are ASK, ELSE, ENDIF, ENDSKIP, FAILAT, IF, LAB, QUIT, and SKIP. Additionally, ECHO is used extensively in connection with script files. Some of these commands, especially FAILAT and IF, can be rather overwhelming, so I will try to keep things as simple as possible.

For this article, we will produce a very simple script file in order to learn how to use a few of these AmigaDOS commands. When the script is executed, it will ask the user a question. After the user inputs his answer, the script will continue with its execution.

Here is the script.

```
echo ""
echo "Welcome to DirCheck, a utility for providing"
echo "a directory listing of specified drives."
echo ""
ask "Would you like to have a directory listing of drive df0:?"
if warn
    echo Very good. Here is your listing for drive df0:.
    dir df0:
else
```

```
    echo Very good. No listing for drive df0:.
endif
echo ""
ask "Would you like a listing for drive df1:?"
if warn
    echo Very good. Here is your listing for drive df1:.
    dir df1:
else
    echo Very good. No listing for drive df1:.
endif
echo ""
echo Thank you for using DirCheck.
```

I have not indented this script to offset it from my article, for I wanted you to see exactly how it looks, line per line. First of all, the script file is, at it says, a utility program called DirCheck. It simply asks the user if he would like a directory listing for drives df0: and/ or df1:. If you like, you could add other drives to the script.

Now, let's look at the AmigaDOS commands used in the script, starting with ASK. This command is similar to the INPUT command in BASIC programming. It simply asks the user to input some type of information. In this case, all the user needs to type is a "y" for yes, an "n" for no, or hit the return for no. The format for this command is

```
ASK <prompt>
```


The prompt can be a single word or an entire line. If spaces are included, the entire prompt needs to be placed within quotation marks, as in the DirCheck script above. When the program is run, there will be a pause in its execution until the ASK prompt is answered. After "y," "n," or the return key is hit, then the program will continue.

The next item in the program is the IF statement. IF suggests a condition. Programmers will be acquainted with this concept. If the condition is met, then the next item in the script will be executed. If the condition is not met, though, execution of the program will continue with the ELSE statement, entirely omitting the IF block. In DirCheck, the IF block consists of the following lines:

```
if warn
    echo Very good. Here is your listing for drive df0:.
    dir df0:
```

Notice first of all that the second and third lines are indented. It is not necessary to do so to make the program run correctly. Rather, this is a programming technique which simply allows the author and user to see the block clearly as a group.

The condition here is expressed by the WARN keyword. Technically, WARN is a condition flag. Conditions include four return codes. 0-4 indicate no error, 5-9 warn of an error, 10-19 show that an error has occurred, and 20 or above indicate program failure. The standard codes are 0, 5, 10, and 20. "Y" sets the condition flag to 5 while "N" sets it to 0. Thus, in the script above, when the user answers the ASK statement with a "y," the IF statement is true since WARN and 5 are identical. Since the statement is true, the IF block is executed.

You could reverse the IF and ELSE blocks if you wish, substituting "no error" where WARN appears. If you do so, be sure to use quotation marks because of the space between the two words. Now, if "n" is given as the answer to the ASK statement, the IF block condition is true, for "n" equals 0, or no error.

When the condition of the IF statement as printed above is met, then the block is executed. First, the ECHO statement is executed. This prints everything after the word ECHO (I'll discuss ECHO later). Then the next line is executed, the DIR statement, and a directory listing for drive df0: is printed to the screen.

Once this block is executed, control moves to the next line, the ELSE statement. ELSE is the option available if the IF condition is not met. Let's look at the line again.

```
else
    echo Very good. No listing for drive df0:.
```

If the user answers "n" to the ASK statement, the IF condition is not met; in other words, he does not want a listing of drive df0:. Thus, control passes to the ELSE statement, and the two sentences following the ECHO command are printed. If the condition in the IF statement is true, though, the ELSE block is skipped altogether. Control then passes on to the next line, the ENDIF statement. The ELSE statement is executed only under the condition that the IF statement is not met.

Every IF statement must end somewhere with the ENDIF statement. This command shows that all parts of a condition are finished. It is also possible to have nesting, where one IF/ENDIF

block is embedded within another, as demonstrated symbolically below:

```
IF CONDITION #1
IF CONDITION #2
ELSE CONDITION #2
ELSE CONDITION #1
ENDIF
ENDIF
```

This is just one way of nesting an IF/ENDIF block.

Now, on to ECHO. I discussed this command in some detail in one of my first columns, so I will not go into such detail here. Basically, ECHO prints to the screen what follows it. In deference to ASK and some other commands, quotation marks are not needed if spaces are used, but it is a good idea to use them anyway. You will notice that at times I have used ECHO in this manner:

```
ECHO ""
```

This is done to create an empty line for easier reading. In BASIC programming, for example, you would get the same effect by placing PRINT on a line by itself.

In most instances, a program such as this one is not really necessary, for it is much easier to simply type

```
DIR DF0: <RETURN>
OR
DIR DF1: <RETURN>
```

when you want a directory listing. But what if someone is using your machine who is not as computer literate and has no concept of using AmigaDOS commands. Well, he could use the Workbench, or you the programmer could prepare script files for that person. Although such script files are not very common among Amiga users, those of you familiar with the world of MS-DOS know that batch files there are quite common. However, with the advent of Windows, the DosShell, and other more user-friendly environments, such batch files may begin to fade away. There really never has been the need for them with the Amiga's point-and-click Workbench.

If any readers have written some useful script files, I'd like to hear from you. Some may be worth sharing with other readers, so send them in. Next month, I'll complete this short series by looking at other AmigaDOS commands that are used in writing script files.

•AC•

Please Write to:
Keith Cameron
c/o Amazing Computing
P.O. Box 2140
Fall River, MA 02722-2140



bug bytes

by John Steiner

tips

hints

workarounds

suggestions

updates

fixes

B.A.D. Utility on AGA Machines

Greg Bastow wrote via e-mail regarding previous comments about B.A.D. utility software.

I tried using B.A.D. at work on these machines, it worked fine on the Amiga 1200, but it couldn't seem to find the hard drives on the A4000. It's quite strange, don't understand why—must be something different about the SCSI on-top-of-IDE implementation on them.

Reid Bishop, the author of B.A.D., is difficult to get a hold of due to his moving to a new home, and taking on a new job. As soon as he is settled, I hope to see whether he can fix the problem or suggest a workaround.

Greg further suggested that he likes AmiBack Tools, and noted that it is currently in version 2.0. He listed several features of the latest version, AmiBack Version 2.0g. He noted that there are many improvements and bug fixes in the latest version.

AmiBack Tools is available from:
Moonlighter Software Development, Inc.
3208-C E. Colonial Drive,
Suite 204
Orlando, Florida 32803
voice: (407) 384-9484
fax: (407) 384-9391

B.A.D. Utility on Workbench 2.0

Mike Bellino writes regarding his experience with B.A.D. His comments were prompted by John McCollister's letter from the August 1993 "Bug Bytes."

I cannot help with a fix, but I had exactly the same problem with B.A.D. software. Last summer I upgraded to WB 2.04. A few days later I tried to optimize my hard drive with B.A.D. as I had done occasionally before. Several hours later B.A.D. declared the operation successful. When I rebooted, my hard drive was found to be with hundreds of file and checksum errors. Like Mr. McCollister, several phone messages left with MV Micro went unanswered.

Given Mr. McCollister's story and my own experience I think we can conclude then that B.A.D. doesn't work reliably under WB2.0. And further, that Centaur Software and MV Micro are truly apathetic.

My only suggestion is to consider Quarterback Tools Deluxe. After backing up my hard drive beforehand (boy, did I ever learn my lesson) I found that Quarterback Tools Deluxe did functionally optimize my hard drive.

STAT-RAM 2.1 Recommendation

Bill Sorensen sent e-mail regarding Rob Knop's comments in the August 1993 "Bug Bytes" about using ASDG's recoverable RAM drive.

Users of that program (and users of RAD) should take a look at Richard Waspe's STAT-RAM 2.1 (available on Portal as StatRam21.lha). As STAT-RAM uses FFS, it's a huge improvement. It does require 2.04+, however.

Pacific Peripherals Subsystem and the 2090 Board

Pete Guerin sent e-mail regarding the solution to his problems posed in a previous "Bug Bytes." He writes:

I've solved my problem with the Pacific Peripherals Subsystem and the 2090 board. It turned out it was not the bus signals as I had suspected. The Amiga was constantly rebooting because it had an older ROM version in it. The Amiga with the Bodega Bay attached, (in which the 2090 board did work) had version 1.3. And the Amiga attached to the Subsystem had version 1.2. I went to my local dealer and purchased a used 1.3 ROM, installed it, and the 2090 board worked great! I only wish I had thought to visually compare the ROM versions before I attempted to diagnose the other chips. Doing that would have saved me from purchasing replacement chips for the CIAs, GARY, etc. So, today I just wanted to say thanks again, and if someone else writes with a similar problem, please encourage them to check their ROM version first before going to other drastic measures, such as shelling out dollars for chips. I also wish I had known about the Amiga Diagnostic Kit at the time.

AdRAM 540 Clock Problem

Pete also commented in his letter about his hardware clock modification that was mentioned in a previous "Bug Bytes."

I want to say thanks for the suggestion that my problems with the AdRAM 540 clock might be due to other hardware on my machine. Since there doesn't seem to be a lot of grumbling about the 540 board's clock from other people, I can only assume this must be the case. But since I've solved the problem with my hardware switch, I'm not going to try and figure out who the culprit is. Just in case someone else does write with a similar problem, my hardware configuration follows. I have an Amiga 500 (Rev 5 motherboard), with an AdRAM 540 board, attached to a Bodega Bay expansion chassis. In the Bodega Bay is a GVP Series II SCSI controller with 8MB RAM expansion (2MB populated), a Commodore 286 AT BridgeBoard and a Western Digital (16-bit) MFM Hard disk controller connected to the PC bus, controlling the hard drive for the BridgeBoard.

X-CAD Designer Dongle

Dave Silva writes to comment on his experience with the X-CAD Designer, and has some comments regarding Rick Green's original request mentioned in the June 1993 "Bug Bytes."

X-CAD product support is supplied (capably) by a company in upstate New York -GRAFX Computing. I was having difficulty with my X-CAD Designer recognizing the dongle after updating to v 2.04 ROM's. I sent a letter to GRAFX, and within five days, one of their representatives called me (long distance) to follow up on my problem with the product. For a minimal fee they sent me an updated version of the program which works like a champ under OS 2.04/2.1.

Contact technical support at:
GRAFX Computing
6680 Wiltzie Road
Panama, NY 14767
(716) 782-2468

called me (long distance) to follow up on my problem with the product. For a minimal fee they sent me an updated version of the program which works like a champ under OS 2.04/2.1.

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(716) 782-2468

Online! Platinum Edition

Kevin Arvin wrote via e-mail with a question about Online! Platinum Edition.

I'm writing about a bug in Online! Platinum Edition v 3.03 for the Amiga. It hasn't worked properly since I upgraded to WB2.0. The problem is that it opens up an oversized (640 x 400) lo-res non-interlaced screen at startup which can't be changed to anything else by the preference controls. The main and review windows open up to full screen size, which means that you have to fish around blindly with your mouse off the monitor screen to find the resizing or shrink gadgets to resize the window to 320 x 200 size so that you can see everything.

The other program functions still work properly so aside from those inconveniences the program is still usable.

I was wondering whether an upgrade is available that fixes this problem, and if so, how do you get it?

I tried contacting Micro-Systems software, but they've left their West Palm Beach address and have left no forwarding address. A call to West Palm Beach Directory Assistance will get you a phone number, but the company you reach is not affiliated with Micro-Systems Software, and does not have exactly the same name. The receptionist noted that she gets several calls a week from people who are looking for MSS. Does anyone know of their whereabouts or have any information about the company?

WordPerfect 4.1 Date Function

Kevin Arvin also noted a problem with WordPerfect 4.1's date function.

There's a bug in WordPerfect's Date function. If you have it output the time in AM/PM format it will always print AM when the hour is 12 regardless of whether it is the noon or the midnight hour. I have version 4.1 for the Amiga but I've noticed this bug in all of the previous versions I've had as well.

PC286 for GVP Hard Drives

Howard Clayton of Waxhaw, NC, writes regarding Mario Vachon's questions mentioned in the August 1993 "Bug Bytes." The latest software version is version 3.0, which should be free. He notes that it is available by just calling and asking for it. He continues, *It might not be the PC286 hardware/software, but the settings the IBM program is looking for. Windows, for example, likes the AT&T Mono-chrome.*

A2002 Monitor

Mr. Clayton also notes that he has an Amiga A2002 monitor that seems to lose one scan line in a hi-res screen after it's been on for about an hour. As an example, the program Diskman's hi-res screen has extremely fuzzy characters when the monitor exhibits the problem. Does anyone have any suggestions as to which component or components in the monitor might need replacing?

More on Maverick

Several people wrote to provide an address for the disk utility, Maverick as requested by R. Everett in the August 1993 "Bug Bytes." In the September issue, I neglected to provide the distributor's address. I visited with a representative from Software Support International, and found that they are the sole distributor of the program at this point. The current price of Maverick version 5 is \$24.95 and it is available from:
Software Support International
2700 NE Andresen Road, Suite A-10
Vancouver, WA 98661
(800) 356-1179

Networking on the Amiga

John Klos writes regarding his options for networking his A3000T with an MS-DOS network. He asks, *Are there any peer-to-peer networking programs for the Amiga to allow communications with PCs using Netware Lite? I'm aware of Oxxi's programs, but they're for real Novell.*

If I were to put an A2386 BridgeBoard and a PC ethernet card in this Amiga, would AmigaDOS have access to drives made available through Netware Lite? What about Printers?

Are there any PC networking types who can help John with his questions? My only suggestion is to explore Commodore's own Ethernet card that is meant for native AmigaDOS, and doesn't require a BridgeBoard. I can't answer whether or not it's compatible with Netware Lite, however.

Print Problems on the Amiga 1200

Chris Henschen of Bowling Green, OH, writes with a question regarding print output on his A1200. Chris is having problems with both *Professional Page 4.0a* and *Excellence! 3.0*. In *Pro Page*, he gets page length output of only 8.33 inches, and Gold Disk tech support suggestions, including placing two text boxes below the main box, haven't helped. *Excellence! 3.0* omits the first four lines of any document when it prints. Chris also tried writing to Micro-Systems Software for assistance, but his letter was returned with no forwarding address (See the excellence! bug report listed above).

That's all for this month. If you have any workarounds or bugs to report, or if you know of any upgrades to commercial software, you may notify me by writing to:

John Steiner
c/o Amazing Computing
Box 2140
Fall River, MA 02722

...or leave e-mail to
John Steiner on Portal 73075,1735 on CompuServe
Internet mail can be sent to John_Steiner@cup.portal.com
FAX John Steiner at (701)280-0764

•AC•

Making Waves: Aladdin 4D Tutorial #4

by R. Shamms Mortier

The visual artist, and especially the animator, loves the essence of the wave. No matter that the affected surface be swirling water, gently blowing sand, thick fiery waves of lava, or gas plasma ripples caused by a warp in spacetime, it is the action and interaction of waves that somehow stand apart from the material being considered. It's not the substance so much as the traversing of the form in defined patterns that excites us visually when we notice waves. Small wonder then that this same visual magic has found its way to computer graphics and animation, and even smaller wonder that the Amiga's own *Aladdin 4D* software from Adspec brings it to us with such variety and quality.

Options Galore

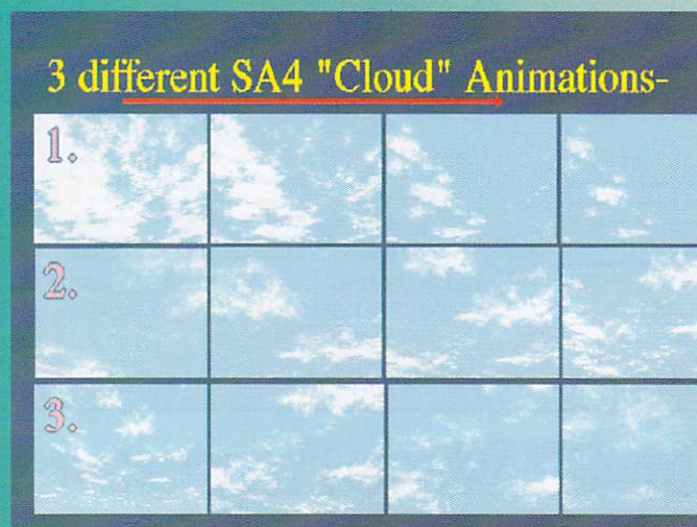
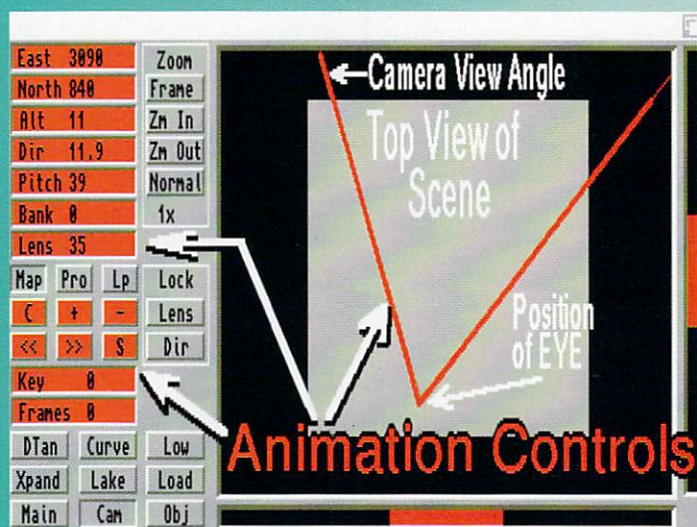
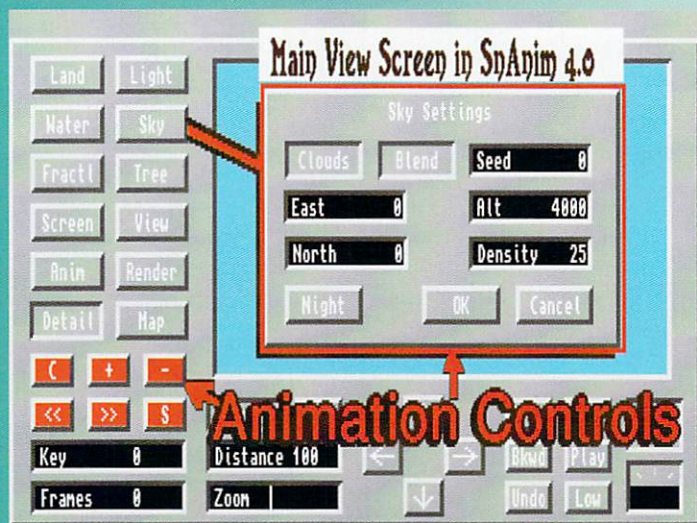
Take a close look at Figure A while you read through this tutorial. It is a screen dump, somewhat enlarged, of the "Wave Requester" in Aladdin 4D, and pops to the screen when you use the command "Wave-Add" at the bottom of the "Polygon" menu. It is assumed that you have Aladdin 4D to make use of this tutorial, and that you either have first-hand knowledge of some of the directions given, or that you have kept up with us so far in this series of Aladdin 4D tutorials in *Amazing Computing*.

The top of the requester is dedicated to the same animation controls as we have outlined in all of the other Aladdin 4D "Lists." These sliders allow you to add effects one on top of another and decide when each begins or ends. Or, even better, you could selectively create unbelievably

lovely modulating wave textures that looped and danced in unexpected ways that would amaze your audience. One use for waves would be the overburdened logo, the one that you just can't manage to fly around the screen anymore in unique ways. Waves

The Aladdin-4D Wave Requester

Figure A



can breathe new life into any animated 3-D object, and can also be targeted to a flat 2-D plane in A4D.

Having covered the top third of this requester's data in other tutorials, let's skip down to the bottom two-thirds, starting with "Wave Types" on the left. There are six separate wave types in Aladdin 4D: Spherical, Linear X, Y, and Z, Multi, and Bumps. Spherical waves are like those caused when you toss a rock into a pond, and watch as ripples spread out from the impact. Linear waves can be targeted to any axis (XYZ), and move more like waves at the beach, marching onward on a somewhat flat plane. The Multi wave selection causes more than one ripple to occur on a targeted object (flat or 3D), and is used mostly to emulate random impacts of spherical waves (raindrops on water, meteorites on a planetoid, etc.). Bumps, the last A4D wave category, are used to give your impacts a better 3-D look, so that even textured rock surfaces can magically take on wave effects. As you can see from Figure A, the Multi option also allows you to set the range (of wave sources in XYZ) and spacing (dimension of the XYZ grid) of multiple waves. For the other wave types, these options are ghosted. The same is true for the OffSet controls below.

Moving to the right, we see the off/on toggle for FIXED at the top. A FIXED wave is one that has a steady effect on a moving polygon that has its wave sensitivity turned on, as if the wave source's position were "fixed" in relation to the poly-object. Turning FIXED off will allow the poly-object to exhibit a more natural effect with the wave source dependent upon proximity to that source.

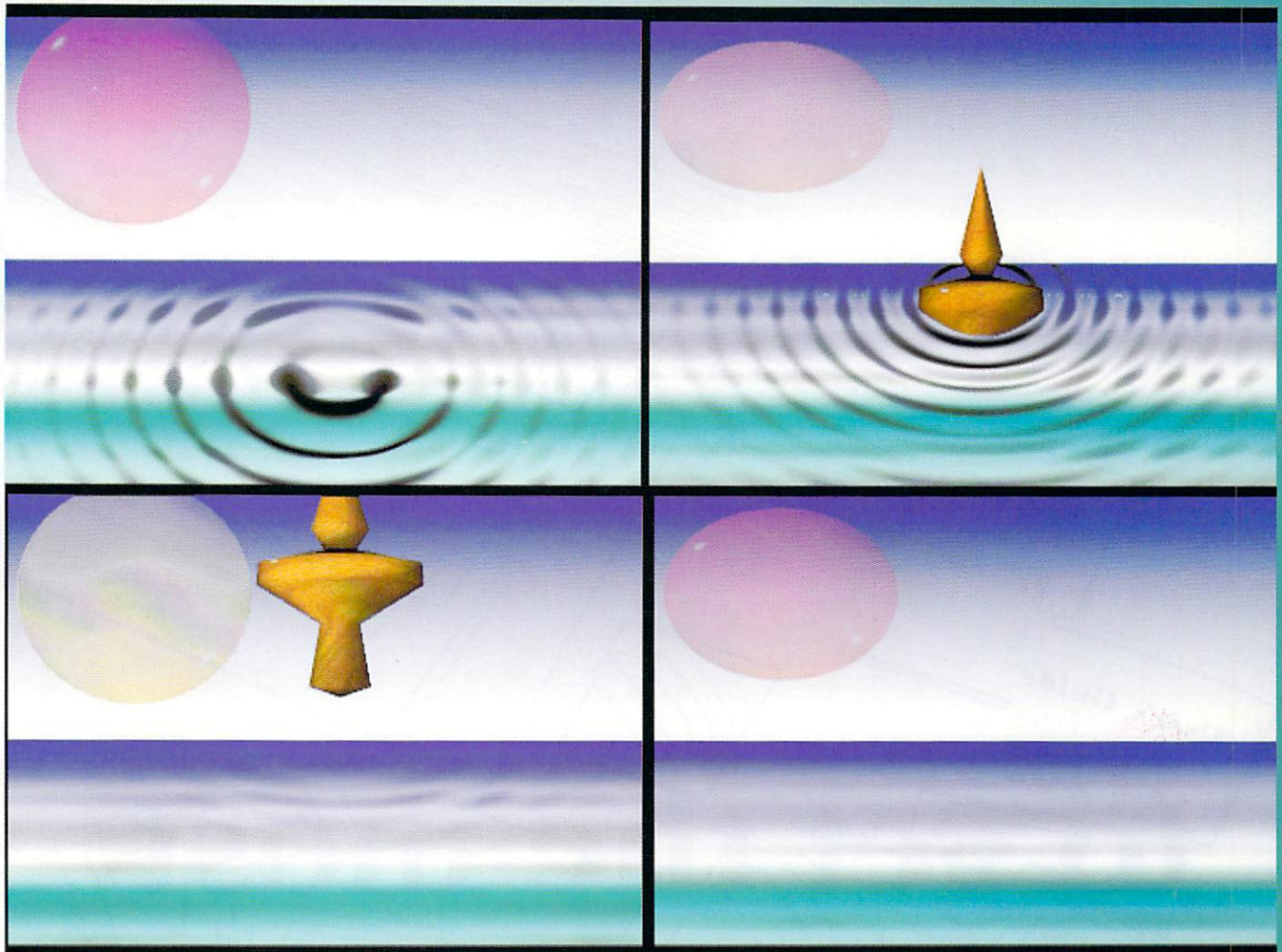
The TYPE setting can be either cyclic (linear directed over time or start to end) or periodic (ping-ponged over time, or start to end to start for each animation).

Now let's move to the soul of A4D's wave generator, the table of exit/entry data in the columns at the lower right of the Wave Requester. Let's look at the items one by one, describing them verbally. Then, as later reference to the accompanying figures will show, we will play with these parameters and see the effects of our actions, thereby "learning" visually. There are six terms in these tables. Each can have one value for entry (the start of an animation) and a separate value for exit (the end of the animation). This means that wave parameters can change in an infinite number of ways over time.

WAVE NUMBER: The default here is "1," meaning that there is one wave generated at the source point. Changing this number is like generating many more waves at the source. The effect is to have thinner, interactive waves when the number is higher, and a more defined wave when we leave the number set to its default of 1.

AMPLITUDE: As in terms that deal with sound, amplitude has to do with wave "loudness" or (in visual terms) the perceived "depth" of the wave from trough to crest.

FREQUENCY: Musical sounds that are of a low frequency have their waveforms spread out, while "higher" frequencies (higher sounding events) have waveforms that look more scrunched up, and so it is here. Less frequency produces thicker waves, while higher numbers create thinner whispery forms.



PHASE: Waves are basically shaped like sinusoidal forms, meaning that they have a high point (crest) and a low point (trough). In A4D, a wave that moves outward from an impact center has an entry setting of 1.0 and exit setting of 0.0. The opposite, and values in between 0 and 1 can also be used. It is especially true of waves that are set at different related phases that produce unique and sometimes bizarre results. This is so because their meeting creates varied interference patterns.

MAX/MIN Distances: These have to be played with visually to learn and appreciate. They are, however, fairly self explanatory. MAX is the farthest distance from a poly-object set to receive waves that the wave will have any effect, and MIN is the minimum. Very subtle visual changes, however, are created when these numbers are tampered with. Always tamper radically so that the results are obvious and you can appreciate and learn the pattern involved.

Verbal Isn't Visual

It is difficult to understand the "meaning" of visual work by verbal descriptive means. It is only when you start to actively play with these tools that you can truly appreciate the way that they work. Verbal tutorials are only a surface introduction to that process. A middle step, however, might be to call your attention to the figures that I have created to display how altering some of the parameters affects a simple object, and later to examine the frames of a wave animation that uses mixed wave sources. All of the 3-D

spheres have been texture mapped with a complex texture I created so that the waves would show up more clearly as the surface was being warped by their presence. Placement of the light source is also critical to delineate the curvature and depth of the wave.

Conclusion

By the way, *OpalVision* was used to print out all of these examples in 24-bit reality. I hope you have a better grasp on A4D's Wave creations with this article. When you add a wave, you can also alter it later by calling up the requester again, and sampling your efforts. A4D has awesome capabilities when it comes to wave creation and movement.

•AC•

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The background of the advertisement features a collection of Amiga-related items. In the upper right, a large keyboard is shown. Below it, a mouse is depicted. Several software manuals are scattered around, including two 'User's Guide' manuals for 'Workbench 3.0' and 'A1200'. There are also several floppy disks, some labeled 'Amiga Workbench 3.0' and 'Amiga Fonts'. The entire scene is set against a textured, light-colored background.

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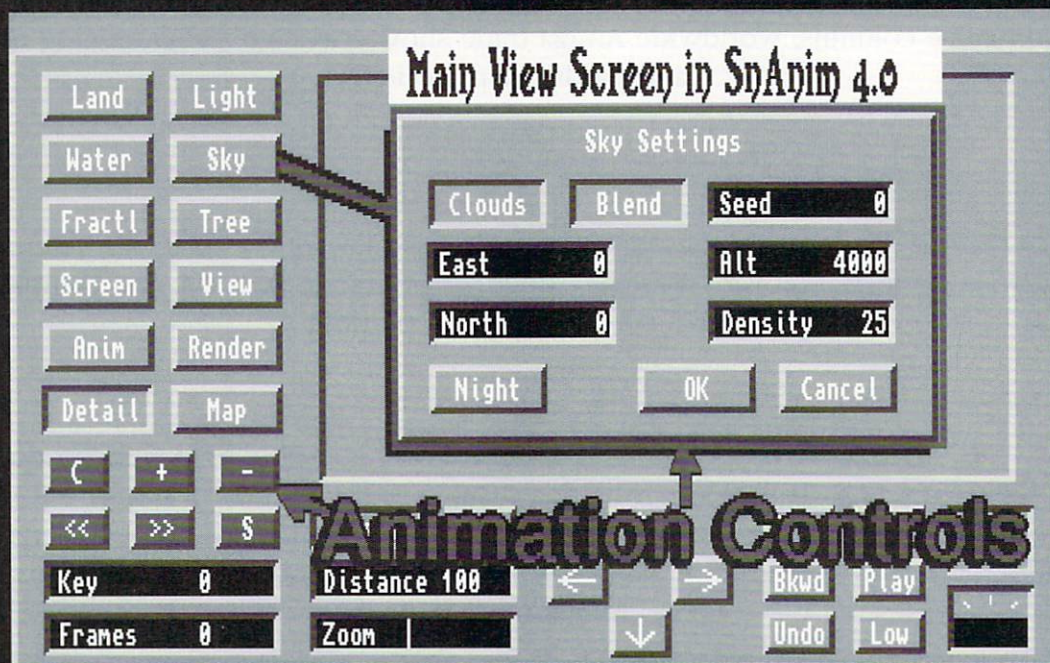
Clouds in Motion

Using Animated Clouds

Scenery Animator from Natural Graphics costs about \$100, but it has many options that are very valuable to the Amiga artist and animator. For one, it is the only fractal scenery generator at the moment to be able to input *VideoScape-3D* ASCII object files. Now you can place all of the 3-D objects imaginable into real digital-world environments. As long as you can get an object into the *VideoScape-3D* ASCII format, *Scenery Animator* can bring it in. The whole look and feel in *Scenery Animator* 4.0 as compared to earlier versions is totally different, including its ability to address the special AGA modes of the 1200 and the 4000. There's even a method for manually placing the Oak and Redwood trees anywhere you want them, and a main-screen way to change the camera view. With all of that, however, the subject of this article is to point out how you might generate and use *Scenery Animator* fractal cloud animations, something even owners of *Scenery Animator* 2.0 can do.

from

Scenery Animator 4.0



—by R. Shamms Mortier

The Scenery Animator Fractal Cloud Requester

As shown above in Figure 1, the simple and classical design of the SA4 Cloud Requester belies the fact of its power and versatility. The interface design of the Cloud Requester is fairly simple to understand. First there's the cloud on/off toggle itself in the upper left. Next to this is the "Blend" toggle. Blending refers to the background, and either contains blends from a horizon to zenith color or just one color. If you work in DCTV, 256 AGA, HAM, or HAM8, the clouds have a look of fine fog or smoke, much more realistic than their 16-color counterparts.

The "East" and "North" generates cloud "offsets" in meters, so that they may be carefully moved into the view you desire in the

picture. It's like being able to turn the sky as well as the land. This is an adjustment that works in conjunction with the camera angle which is set on the Map or Elevation screen (see Figure 2). "East" and "North" refer to movements of the Camera or sighting device (your eye). Then there is the "Night" toggle. If you want to add in some stars, then they are positioned in the sky like other input objects. The colors of both clouds and the sky background is adjusted in the "Screen" requester, where a palette indicator shows two buttons next to "Sky." The program uses both colors to produce a contrasted clouds image against a background. As an experiment, try yellow clouds against a red background for planetsapes, or

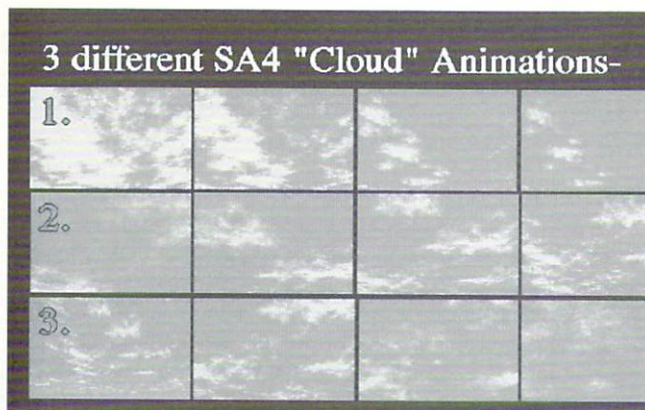


Figure 3. A selection of frames from several Scenery Animator cloud animations.

even for sunsets of fire. For an extremely hallucinogenic appearance, try the colors black and violet. Right now, colors can't be animated, but we can hope that in a future Scene Animator release that this will be made available. This would allow for such things as animated sunrises and sunsets.

The three input boxes on the right are very important. They are "Seed," "Altitude," and "Density." Seed starts a random number generator that determines the shape of the clouds. Though the seed factor does not as yet help in the production of animated morphs (you can't create a seed keyframe different from another and hope to animate the difference), both Altitude and Density are primary in the animation of clouds. Altitude represents the height at which clouds start, and Density is a percentage of sky covered by clouds. Both of these can be set differently in animation keyframes.

Another factor that is important in SA4 cloud animation can be seen on the Map screen (see Figure 4). The red angled lines on the dark field represent the camera direction of sight and the lens angle. Both of these can lead to animated results when changes take place from one keyframe to another. Basically, the lower the number in the Lens input area (to a minimum of 18 which equals 90 degrees), the wider the camera lens gets (the internal angle of the red lines of sight).

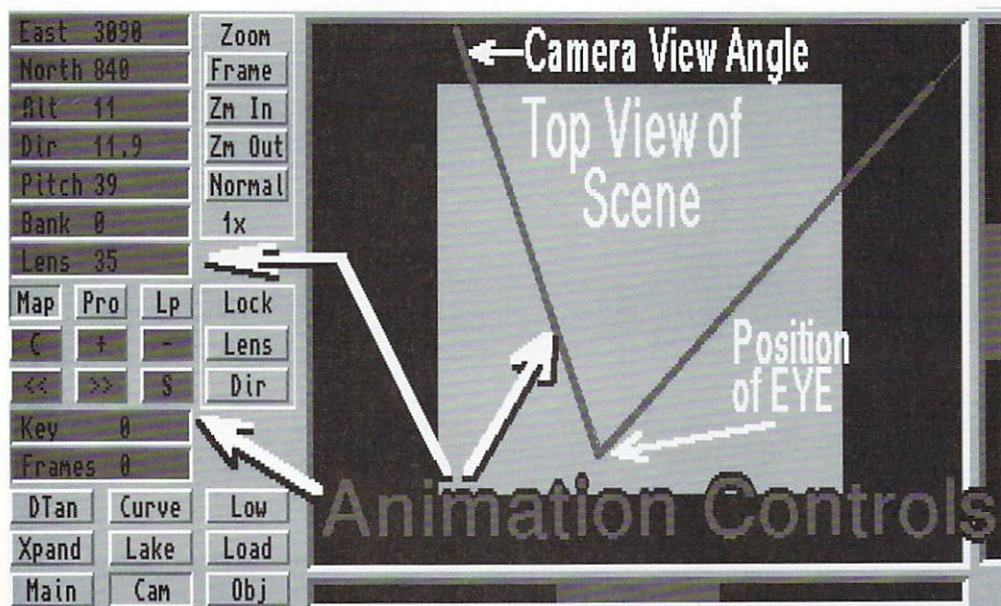


Figure 2. Scenery Animator's Map screen shows a top elevation of a scene and gives you visual control over the camera's position and focal angle.

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The SA4 Animation Process

SA4 creates animations via a standard keyframe method in which you tell the program which settings are to be used (positions of the camera, directional path, etc.) as keyframes, and it then generates the in-between frames. In SA4, straight and curved animation paths may be mixed, and the camera can be told to stay tangent to the path. Keyframe editing controls reside on both the Main and Elevation screens for ease of use. There is no limit to the number of keyframes you may create, but be aware that SA4 animations may change every pixel on a screen, making animation storage quite bulky. Plus and Minus buttons add and delete selected frames, and the number of tweens can be set as well. ANIM starts the rendering. Frames are processed according to the settings made in a pop-up Animation Frame Range requester. There is a special setting that allows you to make changes to all frames at once, without having to adjust changes to each frame in the

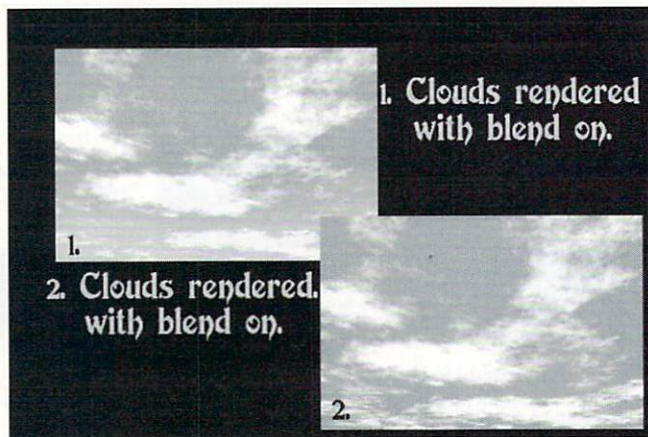


Figure 5. Here we see the difference between turning the Blend setting on or off.

animation. Animations can be generated as ANIM compressed formats or as single frames.

Varieties of Cloud Animations

There are several ways to animate clouds in SA4, and each one creates a specific look suitable to an animator's needs. I have found that the standard IFF renderings of clouds are suitable for anima-

tions that require a painterly look, whereas photo-realism is addressed best by 24-bit and HAM8 renderings (though the 256-color mode is also nice). The way that clouds are set in motion in SA4 opens up new ways to utilize them as either backdrops or as part of an internal element in a scene.

Hey, Brett. Got a Minute?

As an obsessive Amiga animator and a Scenery Animator fanatic, there are still a couple of things I'd like to see in the Clouds animation options, hopefully before the release of SA5. One is the ability (especially in DCTV, HAM8, and 24-bit formats) to animate the colors in cloud animations. This would open up things like animated sunrises and sunsets, as well as strange new color sky morphs. It would even be nice to animate colors on landscape and sea scenes. I also have a fantasy concerning subjecting both clouds and trees to changing wind values, including directional input. Can you imagine a cloud-filled sky moving as a hurricane wind whips the atmosphere? I can.

•AC•

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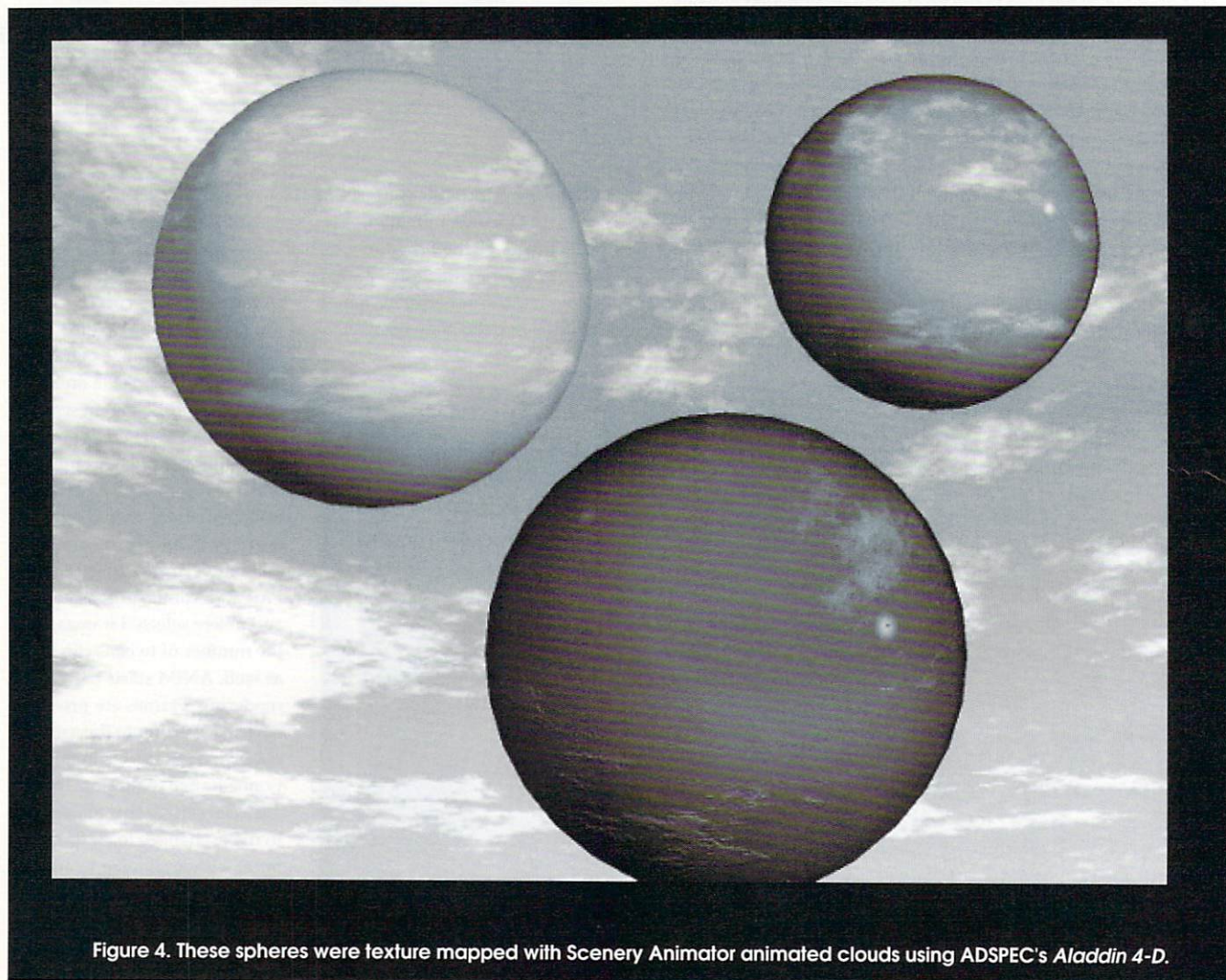


Figure 4. These spheres were texture mapped with Scenery Animator animated clouds using ADSPEC's Aladdin 4-D.

Bars&Pipes Professional 2.0

MIDI Sequencing & Multimedia Control Software for the Amiga

by Rick Manasa

While we all owe a debt of gratitude to the fine folks at Dr. T's for providing top quality MIDI software during the early years of the Amiga, it's hard to imagine where we'd be today without the outstanding line of MIDI software and hardware put out by Blue Ribbon Soundworks. *Bars & Pipes Professional 2.0*, the latest edition of their MIDI sequencing software program, has been on the streets for some time now, with more bells and whistles than a circus clown. In fact, it's hard to consider Bars & Pipes strictly as a high powered sequencer package anymore. Blue Ribbon has taken Bars&Pipes across the border into the multimedia authoring arena with a new set of Tools and Accessories designed to let you control audio, video, slide shows, the Toaster, animations, and a variety of other items not usually associated with a MIDI sequencer. Those of us used to working with Bars&Pipes Professional will all of a sudden be able to present full blown multi-media extravaganzas without leaving the comforts of our familiar MIDI sequencer environment.

The basic screen in B&P Pro 2.0 doesn't look a lot different from screens in earlier versions. You do, however, have a lot more options for laying out the windows on the screen under Workbench 2.x, all selectable from the Environment Preferences window. You can elect to use the Workbench 2.0 file requester instead of the Blue Ribbon scrolling list requester when loading or saving something from disk. However internal loads, such as those performed by the question mark button in the Toolbox or the Patch List requester, still use the scrolling list. Selecting the Workbench Screen Mode will let B&P Pro 2.0 take advantage of the AGA chipset automatically. This version of B&P Pro will also support virtual screens up to twice the width and height of the visible screen. This will let you open all the windows available and place them anywhere on the virtual screen ready to go. B&P Pro 2.0 keeps all this information in the Support drawer, instead of the S: directory as earlier versions did. All the currently loaded Tools and Accessories are listed in the Tools and Accessories files, and the path names to Songs, Patch Lists, etc., are kept in the BPPDirs file. As before, you can edit these files directly with your favorite text and hex editors.

The manual has been re-written and is very thorough and well laid out. There are plenty of graphics to accompany the text. With a program as detailed as B&P Pro 2.0, I'd like to see more examples and tutorials, however. This is not a program to master overnight, and a running set of tutorials dissecting each of the many aspects and features of the program would be most helpful.

Little things mean a lot

There is a whole slew of little changes to B&P Pro 2.0 that you'll grow to appreciate. Since B&P Pro 2.0 was designed after Blue Ribbon's *Triple Play Plus* and *One-Stop Music Shop* were introduced, it can take advantage of the different MIDI sources and destinations offered by these products. You can route everything from the pipeline inputs and outputs to the metronome destinations to alternate MIDI ins and outs.

The name of the current Track has always been highlighted in red in the Tracks window. This now carries over into the Song Construction and Media Madness windows. You can now add and modify



Bars&Pipes' environmental preferences.



Left: The Group Graphics Editor screen.

Below: Bars&Pipes' Hit List translation.

Tracks directly from the Song Construction and, to a lesser degree, the Media Madness window as well. It's now actually easier to move a Track in the Song Construction window than in the Tracks window. Just click on the Hand icon, grab the Track and drag it where you want.

The main Transport window controls are now duplicated in the Tracks window and also in a Mini Transport window. If you find memory and screen space at a premium and don't use the flags, looping and punching options all that often, these alternatives can be a big help. The transport controls in the Tracks window will let you control all the basic tape transport functions and the Mini Transport window has a button to switch between clock or music time and frames or video time in addition to the basic set of controls. You can now click and hold on the tempo in the Transport window and drag your mouse to a new tempo setting. The Tools in the Toolbox can be displayed as icons or as icons with names next to them. When selected, this option replaces the question mark box method of identifying and selecting a Tool. You can now load your preferred Song setup on bootup by saving it with Save As Default from the Song menu. Ditto for your favorite Track. All cool stuff.

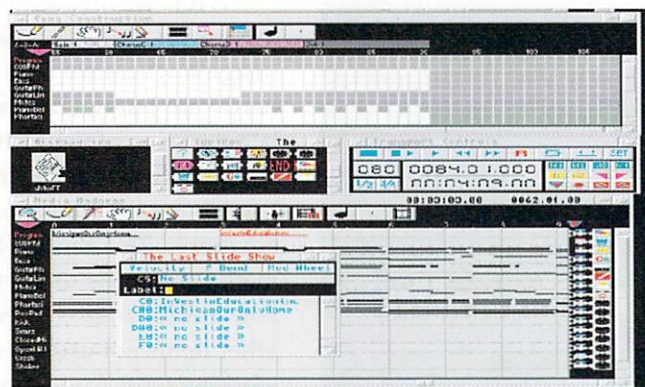
Patch lists can now be defined in addition to scales, chords, and rhythms. A Patch List is made up of the names and program change numbers of all the sounds in a synth. Once loaded, B&P Pro 2.0 will display patch names as well as numbers whenever you place a program change in a track. You can create them by hand or load lists created in *The PatchMeister* or *SuperJAM*!

The Record Activation window allows you to make global changes to what does and does not get recorded. By default, all MIDI events that enter the pipeline will be recorded over any existing MIDI events of the same type. The Lock button in the Mix Maestro has been expanded to three Lock buttons. You can assign one of three lock button colors to any Track, thus creating a Group for mixing.

The structuring and use of Groups has been further developed and refined. You can create a temporary Group by holding a Shift key and selecting the tracks you'd like to Group together. This is nice if you want to perform a Group operation, like Gathering all your guitar tracks together, and then forget the Group. All member Tracks of a Group will be displayed in gray in the background of any member Tracks graphic editor window. Just make sure that you haven't restricted the range of the Track you're viewing too severely. While you can't edit these Tracks, this feature can help you see pitch and timing differences. If you created a Group of your drum Tracks, for example, you'd be able to see how all the drum parts interrelated in the graphic editor window of any member Track.

There are a few new twists to the use of Tools in B&P Pro 2.0. If you've loaded a song that uses Tools no longer in the Toolbox, B&P Pro 2.0 will attempt to load them for you automatically. If it can't

find them in the expected directory, it will put up a requester giving you the opportunity to load the missing Tool from another location, or even load a completely different Tool, into the Toolbox. Another new addition is the Tooltray. This is one of eight locations for 16 editable copies of any Tool. This means you can set your intervals in a Modulator Tool, for example, drop it in a Tooltray and then drag copies to the Pipeline or Toolpad already set up to your specifica-



tions. Your original Tool in the Toolbox remains unchanged by anything you do to Tools in a Tooltray. You can rename Tools in the Tooltray to make them easier to identify as well as naming the Tooltrays themselves. You could have a Whole Step Up Modulator Tool, and Tritone Down Modulator Tool, and so on, all in your Modulator Tooltray. Each edited Tool and/or Tooltray can be saved individually as well. When you save a song, B&P Pro 2.0 automatically saves the Tooltrays along with it.

Tooltime

B&P Pro 2.0 comes loaded with Tools, some previously available through add-on kits, some brand new. Many Tools that were previously available in add-on kits have been reworked and at least sport the Workbench 2.0 3D look.

So, what Tools are new? The Easy Off Tool filters out all Notes Off control changes. The General MIDI Tool lets you select and install patches by name based on the General MIDI spec. The Sound Canvas Tool does this for the Roland Sound Canvas module, as the Sound Canvas sends control changes in addition to patch changes to set up its General MIDI sounds. Groove Quantize lets you define a rhythm as a template for quantizing instead of quantizing strictly to a quarter note, for example. You can create a rhythm from scratch and save it to a clip, or suck the rhythm directly from the Rhythm Parameters, if you've set them up in your song. The Legato Tool allows only one note at a time to play. If a note is playing when a second note starts, this Tool cuts off the first note. The Pedal Meddler will let you simulate the function of the three pedals of an acoustic piano. The Tempo Tap Tool lets you create rubato passages and the tempo map of a song by reading the tempo you tap on your keyboard as you play. The manual doesn't mention that you can also use the space bar to tap your tempo without inputting any notes. Make sure the Tools window is open and the Track you've placed it in is active. The Trigger Tool will perform a Track, based on a user-defined trigger note. The Track will remain inactive until it receives the previously defined note from the keyboard. It will then play the Track back. The Velocity Splitter sends all notes above a

preset velocity level down the pipeline and shuffles the rest off to a different Track.

The Pattern Tool

The Pattern Tool is so powerful that it merits a chapter of its own in the manual. The Pattern Tool lets you record a section of music that you can then repeat over and over again. This is similar to the way drum machines work. You program in a particular pattern, then link and loop it with other patterns. By way of contrast, the Tracks in B&P Pro 2.0 provide a linear type of recording. You record and perform a Track from start to finish; actually, you will almost always use the cut-and-paste features to simulate pattern recording, but the programs design concept is linear.

There are certain similarities between the Pattern Tool and the Loop Tool. Both provide the same Free Run, Riff, and Trigger modes and the same Transpose and Modulate options. The Pattern Tool will record only MIDI Note events, while the Loop Tool will record any MIDI event. Except for that, the Pattern Tool is much more powerful and flexible.

Double clicking on the icon brings up a grid that looks suspiciously like the pattern grid in SuperJAM! You can select either Piano or Drum display format. Piano format will display pitches down the left side of the window, similar to the piano roll in the graphic editing window. Drum format displays the General MIDI drum notes as its default. The Pattern Tool does not accept real time entry from your MIDI keyboard. It took me a while to accept this. I felt certain that I was missing something in the manual. You'll have to hand enter your pattern with the Pencil or paste a pattern from the Clipboard. I don't understand why something as obvious and useful as real time entry wasn't implemented.

There is the usual complement of buttons across the top of the Pattern Tool window. The Magnifying Glass offers a few new wrinkles. The Time slider lets you hand enter the note's offset. The

determines how long the pattern will repeat once it starts. The Root slider works with the Transpose and Modulate menu items to determine pitch shift values.

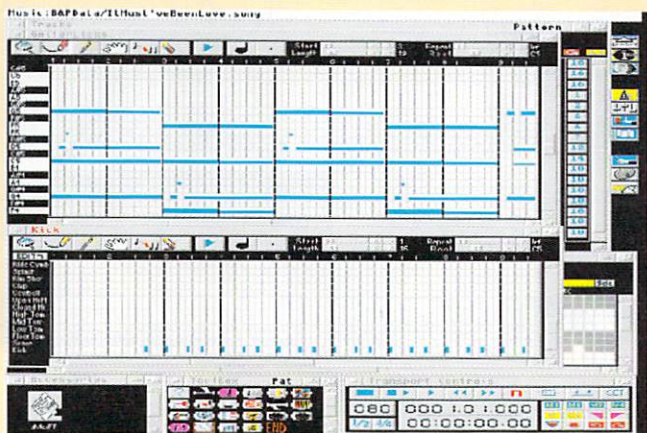
Unlike most tools, the Pattern Tool has a set of menu commands. You can clear, load, save, paste from and copy to the Clipboard and a Track, and set the grid resolution and time signature from the Pattern Menu. The Performance menu contains the Free Run, Trigger, etc. Modes also found in the Loop Tool. The Note Map menu is where you select either piano or drum format for the grid. If you select the drum format, another set of menu options allow you to use the default drum map or load or save a map. The Preferences menu lets you select Auto Quantizing, turn on the Metronome, set the Metronome to a specific MIDI note and enable Auto Scrolling.

If your drum machine conforms to the General MIDI standard, then you need only select the Use Default Drums item from the Note Map menu. If, on the other hand, your drum machine follows the beat of a different drummer, you'll want to edit the standard kit. The procedure is very similar to the one you'd use to edit a kit in SuperJAM! Click on the Edit button and select a drum to modify. A requester pops up, plays the current sound, and displays the current drum name, ID#, and Note number. You'll normally leave the ID# alone. This is how the Pattern Tool insures that each drum track is unique. You could, for example, have your kick drum in one Pattern Tool set for B2 and you tympani roll set for B2 in another Pattern Tool. Unique ID#s per Tool help keep everything sane.

Your drum machine may have more sounds than the General MIDI kit. In this case you'll want to add some sounds and locations. Simply select the Pencil, click in the drum name area and a default requester will pop up. Fill in the necessary information and your new drum is added to the list. You can duplicate, erase, and move drums to suit your needs as well.

Graphic editing changes

Much of the graphic editing features and display make the jump from earlier versions to B&P Pro 2.0 without any changes. Some, however, are new and/or improved. You can refresh your screen by hitting the Return key at any time in the Edit window. You can set multiple notes to the same length by deselecting Lock Wand to Note, changing one note's length then dragging the Wand through the other notes you'd like to change. They'll all be set to the length of the edited note. The Selective Toolize option in the Edit menu is new. It lets you determine the events and range of notes that will be Toolized in a track. The Show menu items that you prefer can now be selected and saved with each song, including your default song. The Bounding Box and the Magic Wand now work together to allow you to tie notes across measures. You can switch between the music time and SMPTE time by clicking on the notes/film strip icon. When the film strip is active, all events are displayed on the hours:minutes:seconds:frames timeline rather than



Vel(ocity) slider sets the note's velocity and the Dur(ation) slider determines how long a note will sound. All three sliders have accompanying Range sliders that introduce a degree of randomness to simulate "feel." The Pencil, Wand, Hand, Duplicator, Eraser, Play, and Zoom buttons operate the same. The Start slider sets the measure at which the pattern will begin playing. The Length slider sets the length of the pattern in measures. The Repeat slider

Above: The Pattern Tools grid.

Right: New accessories for Bars&Pipes.



You won't have to switch constantly between the Wand, Pencil and Hand to edit note lengths and move notes. Two new menu items, Drag With Pencil and Lengthen With Pencil, allow you to duplicate the Wand and Hand functions while still using the Pencil.



There is a wider range of note-locking options in B&P Pro 2.0. In earlier versions, you could lock notes and other events only to the default note values. V. 2.0 adds the ability to lock to the resolution value selected in the Notation menu, or to a grid that corresponds to the rhythm selected in the Song Parameters. You can also lock to the flag alignment set in the "Align with ..." menu item.

The Time Line Scoring features make the jump to 2.0 with a few changes. There is now a Combine TimeLine set of options that give you more control over how certain parameters of each song are calculated. If the Section option is selected, B&P Pro 2.0 makes a new A-B-A section list out of the component parts. The same is true for the Tempo Map and Song Parameters options. If any of these is not selected, B&P Pro 2.0 uses the parameters that were part of the song when it was originally loaded into the timeline.

The Tablature menu item in the Show menu displays notes as fret numbers on guitar strings. This is a great feature for the MIDI guitarist, especially when it comes to transcription, but may be confusing to those of us used to traditional keyboard notation. Tablature describes note placement, but not duration as standard notation does. This means, among other things, that any note could potentially be assigned to the same string, if the string is physically capable of reproducing the pitch described. Another consideration is

B&P Pro 2.0 approaches tablature notation with these characteristics in mind, yet isn't limited by a strict adherence to conventional tablature notation. Six open string notes are displayed down the left side of the tablature window, each capable of being switched on or off and assigned a user defined open string note value. This means that you can decide that some strings won't sound at all and that non-standard tunings of the hypothetical instrument are possible. This is not too far a stretch with the capabilities of today's MIDI guitar controllers. Tablature Resolution lets you determine the note spread across the strings. The larger the resolution, the more notes B&P Pro 2.0 will attempt to transcribe simultaneously. The Tablature Position requester lets you decide which position or fret the program will use during transcription. The Auto feature lets B&P Pro 2.0 attempt to find the most comfortable playing position, or you can assign your preferred position, from fret 1 to 23. Change String Octaves allows you to make global pitch changes across all strings. You can change notes easily by dragging up or down on the pitch with the Wand. The values change as you drag and, with the Play Notes option in the Prefs menu enabled, you will hear the pitches change as you drag.

The numbering system the tablature display uses may take some getting used to. The number on the grid describes how much above or below the open string value a particular note's pitch is. For



Take note

Traditional notation has been given a major overhaul. There are many new options designed to make notation a more useful feature in B&P Pro 2.0. In addition to the Resolution, Transposition, Update, and Print options, B&P Pro 2.0 now offers a variety of

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Transcription options. Where the Update command basically refreshes the display, the Transcribe menu item actually recalculates the note values, using the Resolution settings and the options in Transcription options to determine note and rest placement, ties, etc. You can transcribe the whole track, or just the notes between the edit flags. The Transcription Options give you even more control over the final output. There are about a dozen options, broken up into three categories; note length, chords, and note stem. Selecting Overlap Notes will cause B&P Pro 2.0 to tie overlapping notes together. Extend Notes minimizes the number of rests displayed by extending each note to the next note or beat. Insert Rests does just that and is on by default.

B&P Pro 2.0 considers notes that start within the selected resolution to be parts of a chord. The Chord Options let you determine how B&P Pro 2.0 will display notes in chords. Shorten Notes and Lengthen Notes tell B&P Pro 2.0 to display all notes with the shortest and longest note value in the chord. Keep Note Lengths does the opposite, maintaining the actual note length values, splitting longer notes into tied notes. The Note Stem options let you determine if B&P Pro 2.0 will select the stem direction (Auto Stem), place all stems up or all stems down (Stem Up or Stem Down), or if the program should analyze each measure for two different rhythms, setting one-rhythms stems up and the others down. This can make for a much cleaner and printout. Finally, you can save your score as an IFF file for editing or use in your favorite paint or page layout program.

The Print Notation functions have received a general reworking as well. You have more options and control over your final printout with B&P Pro 2.0, though it still doesn't compete with a dedicated notation program. Sizing the display of the first track's editor window determines how many measures will be printed on a line. You can instruct B&P Pro 2.0 to print in either treble or bass clef or both per track. You now have three different print resolutions to select from. The default resolution will use the settings you've created in Preferences. This will typically make for a faster printout, since most default printer settings are designed for fast output rather than higher quality but slower output. The High Res selection will choose the highest resolution available in Preferences. Extra Hi Res takes advantage of Workbench 2.0 and requires at least 1MB of chip memory to produce the cleanest output possible.

Accessorize

B&P Pro 2.0 comes stocked with nine Accessories, some old, some new. ARexx, Big Sys, Follow The Leader, MTC, The Phantom, SMoose, SunMPTE, SunSet, SyncPro, and True Colors Accessories operate as they did in earlier versions of the program. sMerFF replaces the MuFFy MIDI File converter Accessory. sMerFF will read and write both Type 0 and Type 1 MIDI files and also convert key and time signature, lyrics, track name, tempo map, Sys Ex events, and SMPTE time information. You can save only the tempo map if you prefer, and you can specify the SMPTE format parameters as well. This is especially useful if your music will be used primarily in the multimedia or video arena, where SMPTE is the language of choice. The Add MIDI file option allows you to load more than one MIDI file into B&P Pro 2.0 at a time. This is useful if you have created songs in sections in pattern-based sequencers and saved those sections as MIDI files. Load your Intro, then load your A section, etc., until all your work is sitting in B&P, then shift the sections around.

The MIDI Machine Code Accessory (MMC) allows you to control tape machines and other equipment that support the MIDI Machine Control standard. This means that you can run your multi-track tape decks from within B&P Pro 2.0 along with your sequences—a powerful feature that will make life easier for those so equipped.

The Picture in Picture, or PIP Accessory, is another good example of the power of B&P Pro 2.0 and the Accessory and Tool concept in general. PIP will let you open a video window on the B&P Pro 2.0 screen if you use the GVP Impact Vision IV-24 card. This makes it super easy to score to video, because the video is right there on your sequencer screen! You'll never have to wait for the video suite to send you a print with code burned in. Synchronizing your audio and video through SMPTE coding will ensure accurate timing and is essential if you plan to do serious time-dependent hits.

AmiLink software is controllable with the AmiLink Accessory. You can select which VCR is active and activate the standard set of transport controls from within B&P Pro 2.0.

Things that go bump

As powerful as B&P Pro 2.0 is, there are still some puzzling bugs and quirks lurking in the program. I was not able to save a customized environment, even though the Environment window has the standard Save, Use, and Cancel buttons. I'd even see disk activity if I clicked on the Save button, but my settings would not be remembered when I rebooted. The Environment window reverted to its default state the next time I ran the program. This was particularly galling since I'd taken the time to set up all the windows exactly as I liked them. I opened up B&P Pro 2.0 in my hex editor to see if I could discover the format for the tooltypes. I copied them into the icon and set about customizing my environment. This was the only way I could insure that all my carefully positioned windows would be remembered when I rebooted.

The Graphic Editor window doesn't like to be fooled with when it's performing the displayed measures. If you yank the slider to display another section after clicking on the loudspeaker icon, the Graphic Editor window will jump to the first measure of the sequence, even though it is playing the selected measures. Now it would be really cool if the Graphic Editor window would play whatever measure was showing, allowing you to scoot ahead a measure or two, possibly to hear the ending of a musical phrase that is too long to be displayed. At the very least, however, it should show some better manners and leave the performing measures on the screen, regardless of what you do with the slider. Moving something with the Bounding Box feature could cause you fits. If you try to surround the notes at the top of the window using the piano roll display, for example, the bounding box will think you're at the bottom of the next highest display, like the lyrics or hybrid staff, and won't let you drag down any lower. The solution is to reset your display area so there's some space between the highest note you want to include and the top of the display window. Inconvenient at best.

Most of the gurus I managed to invoke in the first release of B&P Pro 2.0 have been banished with the 2.0b update. However, I still have problems running B&P Pro 2.0 from the CLI. The program will run all right, but it will send me to the guru when I quit. We've yet to discover why this happens. Be careful when saving a large IFF file from the Print requester. There's no way to cancel the operation once it's started.

I've had no success printing out a score using the PostScript driver under 2.1. My printer prints a big black page followed by a blank page. It took a good deal of time to do that as well. B&P Pro 2.0 prints to my dot matrix printer and my laser printer using HP emulation just fine. A bit of a mystery.

The Toasty Tool can't access the last three effects banks available on the 4000 Toaster. The Tool Edit window doesn't always want to open either. We found it necessary to activate the Tracks window and then select Edit from the Tools menu frequently. We're not sure if this is A4000, Workbench 3.0, or AGA related. We were not able to play back any AGA animations with the ANIMAl Tool

(continued to page 79)

Keeping Your Cool II:

A Fan for the Amiga 1200

by Henning Vahlenkamp

WARNING: This project requires modification to your Amiga. You must open your Amiga's case, a procedure that may void your warranty. This project should be attempted only by those experienced with this type of modification. Neither the author nor Amazing Computing accepts responsibility for any damage or injury caused by this modification.

With a 300,000-transistor AGA chip set, a 200,000-transistor CPU, and a tiny hard drive all crammed into a tight package, the Amiga 1200 certainly produces a lot of heat. And that doesn't include any internal expansion boards. After running my A1200 awhile, it becomes rather hot despite plenty of metal inside serving as a heat sink. I question why Commodore chose not to provide it with a much-needed cooling fan—a simple, inexpensive addition.

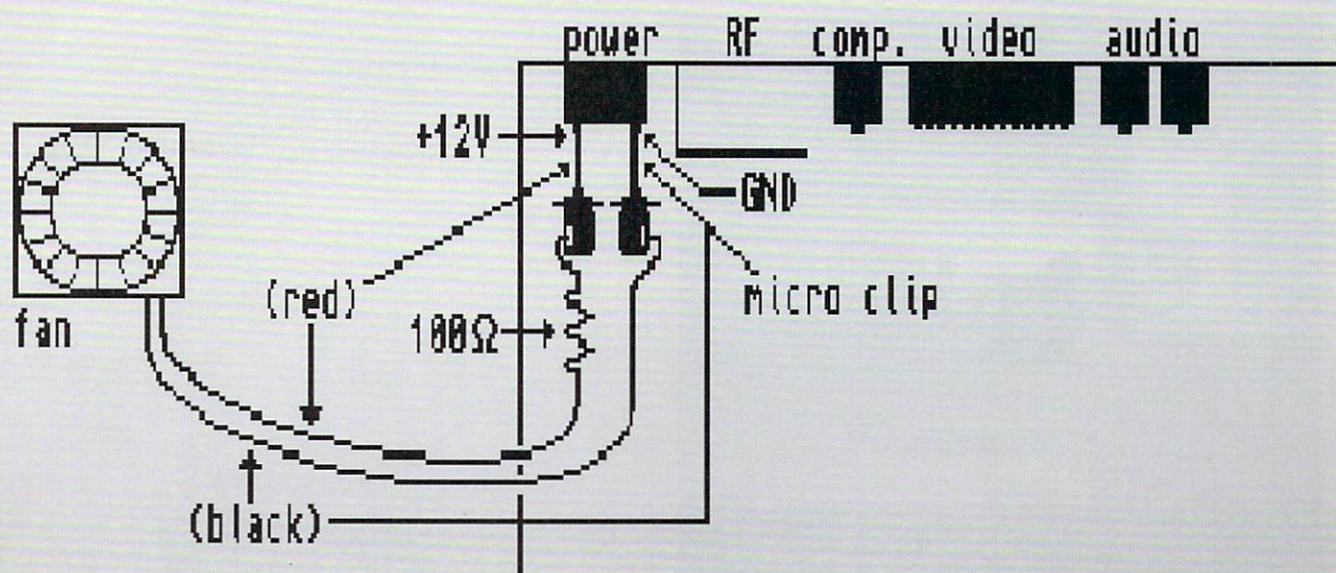
To deal with this heat problem, I installed my own fan using readily available components from Radio Shack. This A1200 fan project is somewhat different from my A500 fan project in *AC V7.11*, but it's no more complicated, requiring a minimum of soldering and technical skills. Although the A1200's hardware need not be modified, installing the fan may still void your computer's warranty.

Incidentally, while designed for the A1200, this new fan project can be applied to the A500 too, if you prefer it over the old fan project. Just make sure your A500 has at least the newer light and hollow 60W power supply. I think this project will also work with the A600, given its obvious similarity to the A1200. Power is no problem for the A1200 or A600 since they both have the same 60W power supply as newer A500s.

Before beginning, touch a grounded piece of metal, such as a lamp, to protect your computer from any static electricity discharges. Now turn off the A1200, unplug all the cables, and use a screwdriver to remove the five screws from the bottom half of the case. Gently lift the top half of the case—the lid—backwards to release it from the plastic hooks in the rear. Unplug the keyboard ribbon cable from the motherboard, and slide out the keyboard. Then you can unplug the LED power light attached to the lid.


At this point you'll see that the motherboard is enveloped in a metal RF shield. Fortunately, the shield needn't be removed; Commodore wisely cut a rectangular hole in its upper left corner directly behind the power connector—assuming the computer is right-side up, the rear ports facing opposite you. This is the best

Figure 1: A1200 motherboard



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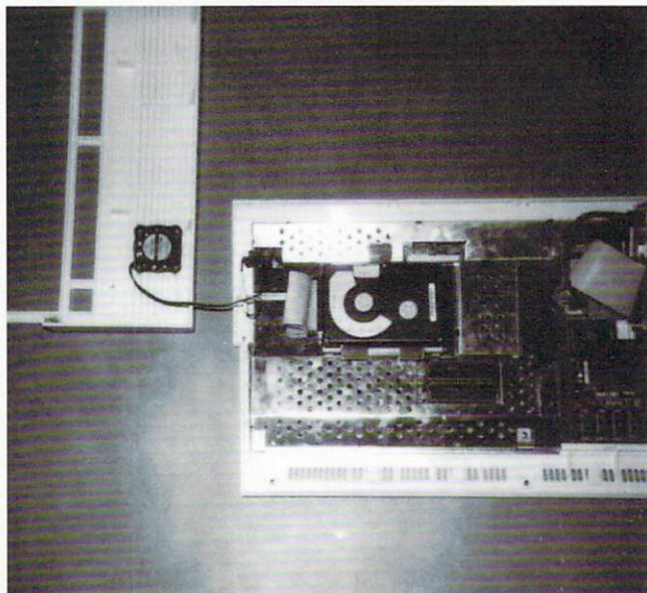
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power source for the fan in the A1200. This black plastic connector houses five metal shafts, four of which protrude from it. The upper two shafts provide the necessary power. The left one, as shown in Figure 1, is +12Volts, and the right one is a ground. Since 1 amp of current also enters the computer through the left shaft and the fan is limited to .1 amp, a 100 ohm resistor is essential to prevent an overload that could damage the fan.



Now for the soldering. First solder the resistor to the red, or positive, wire of the fan. Then solder an inch or two of wire similar to the fan's wire to the other end of the resistor. The resistor needs to be wrapped in tape or covered by heat-shrink tubing; otherwise, it could short circuit against the RF shield. Next solder each wire of the fan to a micro clip. Although you get four different colored clips in the package, for simplicity I recommend using the red one with the wire attached to the resistor and the black one with the black wire.

Once soldering is done, the fan must be mounted on the inside of the A1200's lid. Turn the lid upside down so that the keyboard cutout faces you. Notice the row of air vents separated into rectangles by plastic dividers. Glue the fan's casing to one of these rectangles with some polystyrene glue for plastics or perhaps superglue. I glued mine to the second rectangle from the right, so it would be as close as possible to the hard drive; the rectangles directly above the hard drive are partially blocked by its mounting bracket.

After the glue is completely dry, attach the red micro clip to the left shaft of the power connector, and the black one to the right shaft. Check that you used the upper shafts. If you ever want to remove the fan, you only need to unfasten the clips and pull the fan off the lid; pulling it breaks the glue, but not the lid. That completes installation of the fan project. All that remains is reassembling the computer, being careful not to yank the clips from the power connector in the process, and then testing it.

I tested the project in my A1200 for two weeks before writing this article, and I noticed that the machine runs appreciably cooler than before. The fan does make a bit of noise which blends in with the hard drive's whirring, so it's not really a problem.

On a final note—if the cooling isn't enough or your A1200 works in a hot environment, you may want to add a second fan or even a bigger one. Any subsequent fans after the first should be wired in parallel to maintain sufficient voltage. And if you want a larger fan, you'll probably have to look around, as the one used in this project is the largest Radio Shack carries that will fit in the A1200. Of course, any other fans must be protected by appropriate resistors. I'll leave those modifications to the more experienced readers.

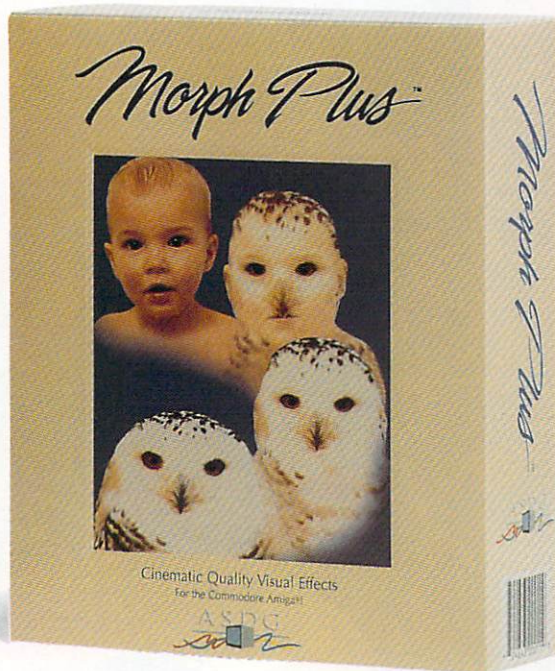
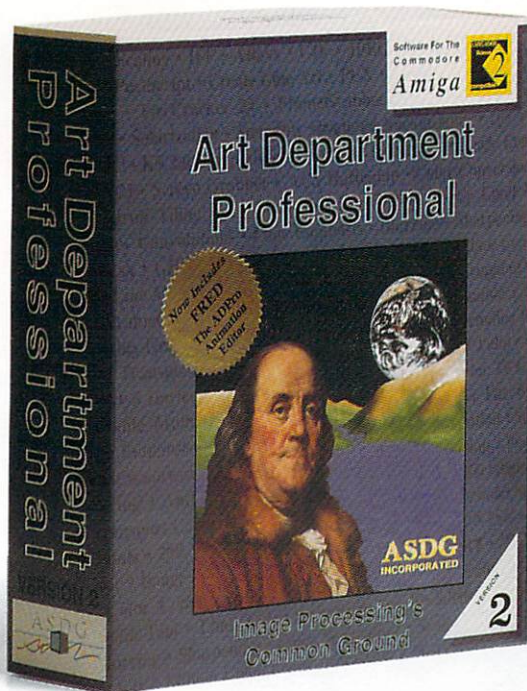
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Parts List: (available from Radio Shack)

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(continued on page 50)



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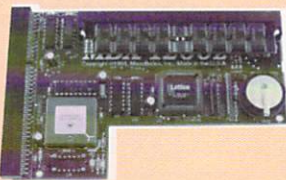
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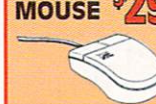
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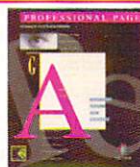
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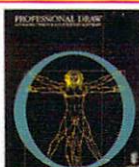
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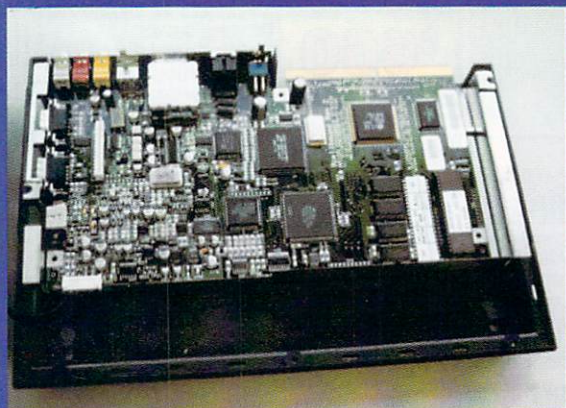
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Keeping it Simple

Top: The back of CD³² contains most of the connecting and expansion ports. From left to right: CD³² expansion bus, power switch, power connector, channel selection switch (channels 3 or 4), RF modulator connection, S Video port, composite video RCA jack, and the RCA connectors for right and left speakers.

Upper Left: The right side of CD³² has connections for two controllers, joysticks, mice, etc. and a high-speed serial jack to accept an A4000 keyboard or even a modified RS232 device.

Lower left: The CD³² controller has been simplified since CDTV. However, it does contain four brightly colored buttons to provide developers with additional options unavailable on other machines.

Bottom: The motherboard of the CD³² is a compact Amiga 1200 with the AA Chip set. The expansion bus (upper left corner) provides access to almost every facet of CD³².

What's Inside

CD³² is a unique box beginning with a condensed version of the Amiga 1200. The 14MHz 68EC020 system contains 2MB of 32-bit Chip RAM and the Amiga AA chip set. The added resolution is a first for a game console. 256,000 colors can be displayed from a palette of 16.8 million.

Ports have been included for stereo, S-video, composite video, RF output, two joystick/controllers, and a headphone jack. The expansion bus is directly accessible to the main functions on the motherboard supplying an interface for an optional MPEG module and more. The headphone jack has a volume control.

A high-speed serial connector is available as an auxiliary port that will directly interface with an Amiga 4000 keyboard. While there was no direct connection available for a floppy drive, an expansion port adapter was not discounted by Commodore representatives.

CD³² has another advantage over its predecessor CDTV. CD³² does not require the expensive CD caddies. The top-loading CD³² is set in a bulge on the stylish case. This feature has not only reduced the cost from powered front-loading mechanisms, but has made the CD³² less intimidating to most users and easily handled even by young children.

Kodak Photo CD? Not Yet.

Although Commodore representatives believe all the hardware required for Kodak's Photo CD has been included in CD³², a licensing agreement on the required software has not been signed. According to Commodore, the required licensing agreement for game systems must come from Philips, makers of a competing product—CD-Interactive. Kodak maintains the right to license Photo CD on desktop computer systems while Philips maintains control of other devices. Although Kodak has spread the technology on Macintosh and other systems, Philips has yet to grant a single license. We attempted to contact Kodak, but no confirmation of this policy was available at press time.

A Commodore spokesperson stated that CBM believes retrofitting the system on existing machines would be no problem. They have included all the necessary hardware and only the interpretation software is needed. It is likely this could be updated by using a pre-load disk with the Photo CD player program on it. The disk would be placed in the player, the program would automatically be loaded into RAM, CD³² would then be ready to accept any multiple-session Photo CD.

MPEG and CD³²

One of the major advantages of CD³²'s double-speed CD-ROM drive is its MPEG capability. MPEG (Motion Picture Expert Group) is an international standards committee striving to establish a single standard for audio and video compression.

There are two types of MPEG CDs: platform independent or platform specific. Platform-independent MPEG CDs will play across all platforms or machines that adhere to the MPEG standard. This will allow recording houses and movie studios to issue music videos and films in the MPEG format. Platform-specific CDs contain MPEG data plus binary information and programming to be used by the specific platform. Both types of MPEG are capable of containing 74 minutes of video and audio; however, platform specific CDs will lose some time based on their use of disk space for programming information.

MPEG CDs are much faster and less expensive to produce. The output is superior to current VHS technology. An MPEG standard could easily transform the music and film industry, and change the way we view movies or listen to music. With music videos available in the same format and with the same quality as audio CDs, now consumers can have the best of both.

There is one problem. While CD³² plays audio CDs at eight times oversampling, an audio CD player will not be able to play MPEG CDs.

CD³² Developments

Unfortunately, not all CDTV titles will play on the new system. Commodore has tested 24 titles with only five displaying minor problems. However, CDTV developers will no doubt rerelease their material in full CD³² versions.

Almathera

Almathera, creators of a series of CD demo, public domain, and fractal disks, have created the first fantasy adventure game for children. *Senny and Foo* are a couple of lizards you guide safely through four different universes comprised of over 500 different screens. Voice narration, an illustrated poem, cartoon animations, and hundreds of different options make this game unique.

Almathera has also produced a CD program to create music videos, *Video Creator*. Video Creator uses a library of video images and animations to create a music video for any standard audio CD. The result can be viewed or recorded on video tape. The program uses specialized timing sequences to coordinate the music with special effects such as PsychCycles, Crossfades, Vector Graphics, Transitions, and more.

CD³² Titles Coming Soon

CD³² titles will emerge from currently successful game publishers. Many companies who have had success with CDTV and the Amiga have already planned CD³² releases based on their previous hits and their newest releases.

GrandSlam is placing their big hit, *Nick Faldo's Championship Golf*, on CD³². Music, digitized pictures, and scenic backgrounds will abound in the CD³² release of this game in October.

Millennium will provide *James Pond 2*, *Diggers*, and *Daughters of Serpent* in CD³² versions as well as their new release, *Captive II*. Based on their highly successful *Captive*, *Captive II* can place your character in over 4,096 random computer-generated plots with 36,000 possible city locations. As Trill, a prisoner of conscience and an exile from Earth, you must battle the mighty and profitable BioCorp. CD³² will take advantage of the enhanced vectorgraphics and intense animation sequences.



Video Creator, from Almathera, uses a library of video images and animations to create a music video for any standard audio CD.

Additional Entertainment Support

When the CD³² was launched on July 16 in the UK, Commodore released a long list of support products in development. Those not already mentioned include the following:

Acclaim: *Mortal Kombat*

Bullfrog: *Syndicate* and *Biosphere*.

Falirsoft: *Oscar*, *Whale's Voyage*, and *1869*.

Gremlin: *Hero's Quest*, *Lilil Devil*, *Nigel Mansell*, *Premier Manager*, *Zool*, *Zool 2*, and *Utopia 2*.

Krisalis: *Sabre Team*, *Soccer Kid*, as well as *Manchester Utd 2*.

Microprose: *Civilisation*, *Gunship 2000*, *B17 Flying Fortress*, and *Legacy*.

Mindscape: *Alfred Chicken*, *Chaos Engine*, and *Liberation*.

New Media: *Guinness Book of World Records 2*

Ocean: *International Golf*, *Jurassic Park*, *Sleepwalker*, *T.F.X.*, and *Inferno*.

Plattsoft: *CD Football*.

Psygnosis: *Microcosm* and *Lemmings*.

Renegade: *Sensible Soccer* and *Uridium 2*.

Sachs Entertainment: *Defender of the Crown 2*.

21st Century: *Pinball Fantasies* and *Pinball Illusions*.

Team 17: *Alien Breed 2*, *Body Blows*, *Project X*, and *Super Frog*.

Thalion: *Lionheart*

Virtual Entertainment: *Composer Quest*.

Xiphias: *Grolier Encyclopedia 2*.

Titus: *Battlestorm* and *Prehistoric*

Optonica Ltd.

Optonica Ltd., best known for their video products *VideoStream*, *Simpatica*, and *Video Time Lapse* (VTL), has created an Amiga-based CDTV (and now CD³²) authoring system, *Interplay*. Optonica has also created a variety of CD³² software.

Interplay is a multimedia design tool using a point-and-click system. This programming-free environment allows users to create productions for consumer titles, education, and business. *Interplay* uses a layered design system that allows users to

watch the design build as they combine pictures, animations, photos, digital video, text, music, sound effects, and narrations.

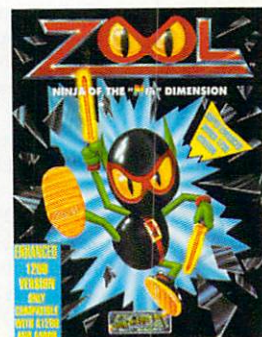
Insight:Dinosaurs will be one of a series of major releases by Optonica.

Insight:Dinosaurs is a joint venture between Optonica and the British Natural History Museum. Based on the work of the British Natural History Museum's resident paleontologists, *Insight:Dinosaurs* will use 2-D and 3-D computer graphics, motion video, photos, narration, music, and sound effects to bring the world of dinosaurs to life. The expected delivery date is November at £39.95.

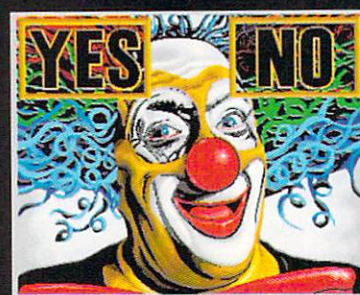
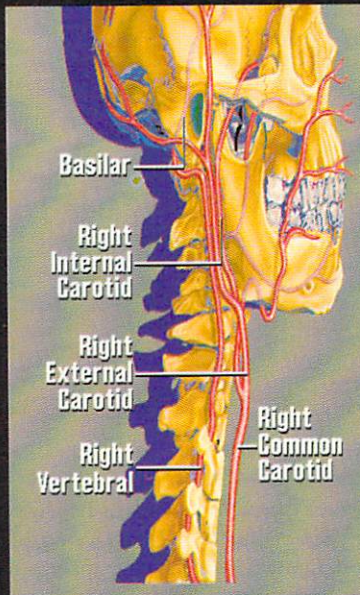
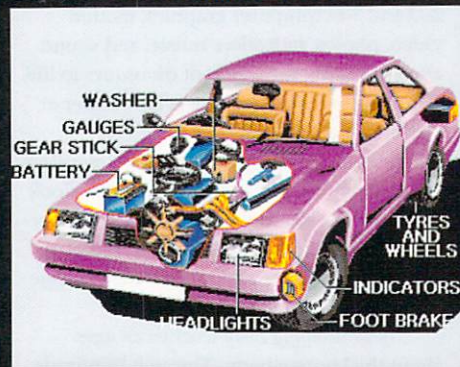
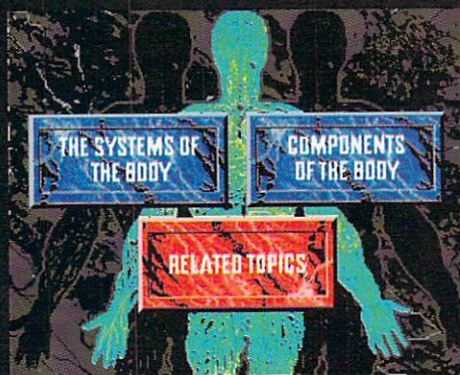
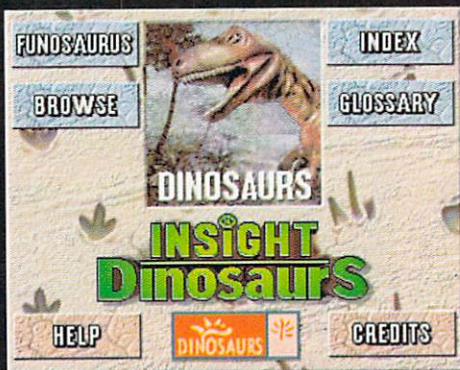
Insight:Technology continues Optonica's multimedia CD work with an intensive look at technology through pictures, animations, video, narration, text, music, and sound effects. Priced to be announced, the package should be available by October.

Insight:Living Body teaches all ages about the Human body. Through hundreds of hand-drawn graphics, animations, motion video, and detailed photographs, users tour the human body from the skull to the foot. There are sections on medicines, the human life cycle, and more. *Insight:Living Body* will retail for £39.95 when it is released in December.

Optonica's *Pandora's CD* is an interesting title containing over 2,000 clip art images, 99 sounds, as well as six multimedia presentations from nuclear power stations to



Zool and the new Zool 2 by Gremlin will be released for the Amiga CD³².



Optonica Ltd. will release a series of CD³² titles. *Insight:Dinosaurs*, *Insight:Living Body*, *Insight:Technology*, and even a disk on designing your own multimedia programs, Pandora's CD are all due within the next 4 months.

a tour of England's Milton Keynes. Pandora's CD is a must for anyone working in Amiga multimedia and lists for only £4.99.

The London Transport Museum and Index Information, Ltd.

Index Information, Ltd. is part of an innovative £4 million display with the London Transport Museum. When completed, the *Hyper-Museum Project* will use 109 CD³²s to provide interactive information, video, animation, interactive sound effects, display control, and background sound effects. The CD³²s will offer subtitles in six languages: French, German, Spanish, Italian, Japanese, and English.

Although there has already been some experimentation with Hyper-Museum technology in the form of a virtual museum on videodisc or CD-ROM, the London Transport Museum intends to take the concept beyond a database and allow visitors to interact with a real museum. Instead of just pictures, the visitor will be

directed to real museum displays and artifacts. The visitor is free to wander through the displays and using the Hyper-Museum as they wish. The electronic and actual versions of the museum's displays will become integrated into an almost seamless presentation.

Mick Tinker, Technical Director of Index Information stated, "Many of the qualities that will make CD³² such a successful home entertainment system also make it the ideal commercial multi-media player. A high-quality and low-cost delivery unit combined with a powerful development platform is allowing us to provide advanced displays at much lower costs than competitive systems.

"We have had a very positive response from early demonstrations of the projects. We feel that the concept will attract the attention of museums and visitors from around the world. One of the new underground train simulators was shown at an exhibition and ever since, the museum has

been receiving regular requests from companies wishing to hire the display for their own exhibition stands!"

The project will consist of 1,152 raytraced 24-bit images created with Real3D. The displays will be operated by touch screen, keyboard, mouse, or remote control. A CD³² "Interactive Museum" program will be created for publication after the museum has opened.

Every one of the 29 vehicle displays will have CD³² displays in front of them. In addition, another 20 CD³² displays will be created so that vehicles can be rotated from storage without any further development work. Nine touch screen CD³²s will provide multiple-choice video sequences from the archives of the Transport Museum, while seven additional touch screen CD³²s will provide a singular video sequence.

Index Information Ltd. has provided a wide variety of Amiga, CDTV, and now CD³² custom products. They have completed projects for British Telecom, BBC Scotland, Photo-Me International, Amiga Centre Scotland, Xi Electronics Ltd., Tritech Marketing Ltd., and Team 4. However, the London Transport Museum project is their largest.

The Competition

As CD³² is entering a highly competitive array of CD game consoles. From the 16-bit Sega and proposed Nintendo CD machines to the massively backed CD-Interactive and 3D0 players, CD³² will need to dominate its opposition and establish its position in the marketplace. Its advantages over these platforms will help.

As compared to Sega and Nintendo, CD³² offers 32-bit graphics in more colors and with better resolution. The double-speed drive beats Sega's current standard drive.

CD-I and 3D0 bring even higher stakes to bear. CD-I has already met the same consumer resistance as CDTV. Philips is planning an MPEG cartridge for CD-I this fall, but CD-I's base price system retails higher than the suggested U.S. price of "under \$400" suggested by some Commodore executives.

3D0 could be a substantial competitor with the might of Electronic Arts and others behind it. However, 3D0 has yet to be marketed (Panasonic is scheduled to ship a version of the platform by October) and the price will be significantly higher than CD³². In addition, the development system for 3D0 begins at \$10,000 while an A4000 with a large hard drive is sufficient to begin working on CD³² titles.

CD³² has some significant advantages over its competition. Advanced graphics based on a hardware system that has been on the market since 1985 has produced a large contingent of programmers who know how to utilize its features. Commodore's task is now to convince a large segment of the programming public that CD³² is a serious platform with consumer acceptance.

•AC•



ROOMERS

by The Bandito

[These statements and projections presented in "Roomers" are rumors in the purest sense. The bits of information are gathered by a third-party source from whispers inside the industry. At press time, these rumors remain unconfirmed and are printed for entertainment value only. Accordingly, the staff and associates of Amazing Computing cannot be held responsible for the reports made in this column.]

CD32 Unveiled

For some time The Bandito has been telling you about the CDTV II project, which has undergone several alterations over the years. Now Commodore has finally made up its corporate mind about what to do with this device. Someone must have come to their senses and realized that they couldn't sell this thing for \$1000, which was their original intent. Now Commodore has decided that a much lower price is the only realistic choice, and in fact that this machine could be just what they need to pull Commodore out of its financial morass.

Here's the lowdown on the project, now called CD32. The CD32 is being marketed as a multimedia player/videogame console, positioned to go head-to-head with 3DO, Atari's Jaguar, Sega CD, CD-I, and the Super CD from Nintendo (as yet unofficial). CD32 is essentially CDTV II repackaged at a lower price point. How low? We'll get to that in a moment. Let's check out the specs first.

CD32 Specifications: Double-speed CD-ROM drive (300K/sec transfer rate), 14MHz 68020, 2MB of RAM, full AGA chip set, all housed in a slick videogame style case. It's also got an expansion bus for later add-ons, and ports so that you can add a keyboard, mouse, and other peripherals. Yes, CD32 is

designed to be easily turned into a complete computer system later on; you're essentially getting an A1200 with a fast CD-ROM drive at a great price without a keyboard (though the A1200 will be easier to expand). A \$200 MPEG add-on card will allow you to play full motion video at VHS quality or better, 72 minutes on a standard CD-ROM.

The initial retail price will be an astounding \$399; Commodore hopes to drive this down to \$299 as fast as possible—perhaps even as soon as it is released! CD32 has already been released in Germany and the UK, but it may not debut here in the States until next year. Limited production capability is slated first for satisfying the demand in Europe, which has so far been strong.

What about software? Well, Commodore has been making the rounds of software developers trying to convince them to develop software for it. We'll see some repackaged Amiga titles, no doubt about it. But not a lot of companies are jumping at the chance to take a flyer on spending development dollars on a Commodore project. There were some companies that jumped on the CDTV bandwagon—they don't have a lot of profits to show for their pioneering efforts. Paradoxically, though, the strong software support for 3DO might help CD32; developers could port their applications from 3DO to CD32.

One advantage is that CD32 would have a very large base of existing software titles to draw on. Sure, they're mostly shoot'em-ups, but that's what most video games are, anyway. Also important is the rich and mature development environment. It's easy to create games for the Amiga because there are so many good tools. On the

other hand, creating games for video game machines is very difficult, because of the expensive, kludgy development systems available. And the fact that video game machines have such woefully inadequate RAM and processing power that programmers have to jump through hoops to get them to perform at all. For instance, Sierra gave up on porting its adventure game series to Sega CD because there just wasn't enough RAM available to make the games work.

Digital Video

But Commodore doesn't see CD32 as just a game machine; they're hoping that other applications will help sell CD32. High on their list is movies on CD-ROM. To that end, Commodore, CD-I, 3DO, and others have agreed on a standard for MPEG digital video on CD-ROMs, opening the way to movies on CD-ROM that can be run on any suitable system. You get about 72 minutes per disc, so for most movies you'd have two discs. The MPEG video quality has improved, so at least it's now better than VHS, though not by a whole lot. The Bandito still wonders why you'd want to do this rather than rent a video, though there are some advantages. "Rewinding" or "fast-forwarding" is bound to work much faster on a CD-ROM than on a videotape. Of course, you could have digital freeze frames, but that's actually rather tricky with MPEG, since that does intraframe encoding, meaning that to get an individual frame would require some processing.

This movie technology has other applications, too. It could be very helpful to the Amiga line, not just CD32. The Bandito hears that Sega has licensed Cinepak movie compression technology from SuperMac;

3DO is also a licensee, as are Apple (for *QuickTime*) and other companies. This software technology lets you replay movies on screen without a hardware add-on, though the speed is slower (or the number of colors is less and the resolution is lower, take your pick). Now Sega CD can have full screen 16-color movies. Yuck.

But shouldn't Commodore pony up some cash and license this for the Amiga? Think of the kind of playback speeds you could get with the help of the Amiga's blitter. *QuickTime* and *Video for Windows* and all the other flavors of Mac and PC digital video are a major reason why the Amiga is losing ground as a multimedia machine. Yet the Amiga is a far superior piece of hardware to any Mac or PC when it comes to playing digital video. Hey, Commodore, the software's out there, available for licensing. Hire a couple of software engineers—you know, like the people you just fired—and get busy. There's still time to put the Amiga on the top of the heap. Multimedia customers are more interested in performance than brand names. If you show them the Amiga can work with the standards of other computers and provide superior price/performance, they'll buy Amigas.

The CD-ROM Wars, Part Two

CD32 is a direct counter-attack to the video game consoles. This staves off the anticipated competition from 3DO and Nintendo's CD-ROM, and really knocks Sega's CD out of the park. But does Commodore belong in the video game market any more? Is this a corporate direction they want to pursue? And can they

compete with the incredible marketing clout of Nintendo, Sega, and 3DO?

Well, for starters, Commodore is in any market where it thinks it can make money. The way Commodore looks at it, they have this cool technology (the Amiga) and they're looking to make a profit from it in any way they can. Sales of Amigas in Europe are dwindling because of competition from PCs at the high end and game machines at the low end. OK, fine: we'll attack the high end with the A4000 and the AAA chipset machines in the future. Now for the low end, it sure looks like the A600 isn't making it, and the A1200 is too expensive. CD32 looks like it can meet the videogame challenge head-on technologically; specwise, CD32 is right up there with 3DO and way ahead of Sega CD and CD-I.

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The real challenge is in the marketing, which is where Commodore has had complete and utter failure in recent years. They're up against some of the heaviest hitters in consumer electronics marketing now. Certainly Commodore can't even begin to compete in the area of advertising dollars. And advertising dollars sure make a difference. Look at Sega CD, for instance.

The Sega CD, for all its technological inadequacy, is selling amazingly well. In March it was the #13 best-selling toy, right up there with Barbie and GI Joe (Genesis and Super Nintendo were 1 and 2, of course). That's rather incredible for something that costs three hundred bucks and doesn't have a whole lot of software yet. There is, however, a lot of software in the pipeline for Sega CD. The Bandito figures that Sega CD is

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succeeding in part because of the tremendous PR efforts by other companies to sell CD-ROM machines; Sega's the only one on the market now, so when people get all excited and want to buy something, they don't have any other choice. Things will be different this Christmas for Sega, you can bet.

Philips is pushing CD-I hard again, trying to use its new MPEG card to create some interest. The Bandito has seen CD-I selling on the Home Shopping Network for \$699—\$200 more for the MPEG card! These guys are still trying, but their system is looking more and more creaky compared to the latest greatest stuff. The 3DO box has certainly beaten them four ways from Sunday in the all-important hype battle. Technologically, CD-I was always behind the times; it even looked weak back in 1986. And when all the new machines coming out have double-speed CD-ROM drives and at least two to four times the processing power, CD-I just isn't making it. Oh, sure, Philips is planning a version with a faster CPU (16 MHz), and maybe a double-speed drive, but there's still no animation support or sound chip to work with.

Tandy's VIS is trying to revive sales with a \$399 price point, but customers seem remarkably uninterested. After all, this thing is dog-slow, and certainly has none of the whizzy PR energy that 3DO abounds with. You can figure that Tandy will drop out of the race pretty soon; heck, they just unloaded all their computer manufacturing to AST so they can focus on retailing. Gee, that reminds The Bandito, whatever happened to that THOR-CD project Tandy was touting a few

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years back, where they promised to have recordable CD-ROM drives on the market in a year? Must have hit some technical snags, eh?

The 3DO Company has gone public, selling a lot of stock at an amazing price. Right now the company has a stock market valuation of almost \$500 million, and they have yet to ship a product! Now that's marketing clout for you. For comparison, Commodore's current stock market valuation is a tad over \$100 million, and The Bandito seems to recall that they've shipped a few products. Will 3DO live up to the hype? Maybe. Then again, maybe Atari can sell \$2 billion worth of Jaguars, too. Somebody's gonna be wrong in this picture... Oh, you haven't heard about the Jaguar? Stay tuned to this column for the latest report from Atari.

Atari, Again

Just when you thought Atari would never darken your desktop again, they have returned from the grave like a poorly interred vampire looking to suck out the cash of weak-minded consumers. This time, Atari has joined the parade of companies selling "multimedia players" by offering their own solution. Of course, in the inimitable Atari press release style, as presented with the usual Tramiel panache, the Atari Jaguar is supposedly bigger, better, faster and cheaper than everybody else's machine.

The Bandito couldn't possibly improve on the breathless Atari press release, so here it is. Along with The Bandito's commentary, of course.

Atari Corp. Announces the Atari Jaguar

Atari Corp., the founder of the video game industry (Remember us? Please?) and the creative force behind some of the world's best-known titles—*Pac-Man* forever!—has announced the launch of a revolutionary new multimedia entertainment system, the Atari Jaguar. (The Bandito sure is tired of all these revolutions; can't we have a nice, quiet succession of technology for a change? No bullets, no armed forces, just a simple vote by the people that Technology B is better than Technology A.) The launch will be supported by aggressive advertising, promotion and marketing efforts to be centered in the New York market in the fall, with a national roll-out of the product within one year. (Translation: we can't afford a national rollout right now, and besides if it

over 16 million colors in 24-bit true-color graphics and produces shaded 3-D polygons to be manipulated in a "real" world in real time. (Really. That's as opposed to an artificial world, you know.) The Atari Jaguar also has real-time texture mapping and creates spectacular video effects.

The sound system is based on Atari's proprietary, high-speed, Digital Signal Processor dedicated to audio. The audio is 16-bit stereo CD quality and processes simultaneous sources of audio data, allowing for very realistic sounds, as well as human voices, which are essential for future multimedia applications. (Well, that part sounds pretty cool. Better than the same old four-voice Amiga, anyway.)

The Atari Jaguar is truly expandable and will include a 32-bit expansion port that allows for future connection into cable and telephone networks, as well as a digital signal processing port for modem use and connection to digital audio peripherals such as DAT players. (Why would you want to do DAT?)

The unit will also have a compact disc peripheral, which will be double-speed and will play regular CD audio, CD + G (Karaoke) and Kodak's new Photo-CD®. (What they don't say here is that the CD-ROM drive is an option that will cost you another \$200 to \$300 dollars.)

Currently, there are multiple software titles in development (Count 'em: One, two, multiple!), which will be available on MegaCart™. Atari, known for such groundbreaking (What, you mean like all the Atari cartridges in Arizona landfills?) 3-D titles as *Battlezone 2000*® and *Tempest 2000*®, will issue spectacular new versions for the Atari Jaguar. New 3-D game titles will

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doesn't sell we haven't wasted too much money.)

The Atari Jaguar, housed in a futuristic casing (Futuristic? What, they stole it from the Jetsons? Or is it just aerodynamic, maybe with fins?), is an interactive multimedia system (Where have we heard these terms before? Only from every other computer company in the world.) based on an Atari-designed proprietary 64-bit RISC processor. (The Bandito heard some people say it was actually two 32-bit processors, but no one seems to know for sure.) The 64-bit system is four times the technology currently seen in the market today. (And it provides at least twice the "hype throughput," a technical marketing benchmark which measures the flow of buzzwords across a technology reporter's desk.) The Atari Jaguar features

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include *Cybermorph®*, *Alien vs. Predator®*, *Jaguar Formula One Racing™* and many more. Atari will license third-party publishers to join the Jaguar family. (Now if only they could find some publishers who want to be adopted...)

"The Atari Jaguar system will revolutionize the state of home entertainment as we see it today," said Sam Tramiel, president of Atari. "The idea of a 64-bit system is earth shattering, and kids and adults will be amazed at both the imagery and manipulative capabilities. (The Bandito is already amazed at Atari's manipulative abilities, at least as far as the press release is concerned.) And we are proud that our entry into the multimedia entertainment category will be fully made in America." (Only because they couldn't get it cheaper overseas; maybe none of their old suppliers wanted to deal with them again.)

The Atari Jaguar will retail for approximately \$200 and will be available nationwide next year. The Atari Jaguar packaged unit will include one software experience (Wow, that sounds so California, man! Most game machines come with cartridges, but the Jaguar comes with an experience. Do you get karma, too?) and a Power Pad® Controller with a 10-key pad and other special features.

Software Is the Key

Yes, that's what it all comes down to. All of these machines are just fancy door-stops without software. All those hardware features don't mean anything if there isn't any software that uses them. So Commodore has to work hard to get developers lined up to do CD32 titles, and perhaps look for some

special angle for their software. Hey, maybe they should hook up with *Playboy* and get interactive Playmates on CD-ROM. Look, porn worked for VCRs, it could work for CD-ROM machines too. Some of the best-selling CD-ROMs are more or less porn; swimsuit pictures, "adult" entertainment, and the like, sold in little ads in the backs of magazines.

Getter Tougher Before Getting Better

But meanwhile, things are going to get tougher for Commodore before they get better. The latest piece of bad news: Commodore's long-time chief financial officer Ron Alexander has bailed out. Kind of scary, sez The Bandito, when the guy in charges of all the finances takes a powder. Of course, the guy has certainly had a very

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going concern, but there's not that much money to be found in a dead corporate carcass.

While a \$177 million dollar loss is a lot, Apple managed to beat Commodore by losing \$188 million in a quarter (though on far larger sales, to be sure; about 6 times as much, to be exact.) Apple's stock dropped about 25%, and they're laying off 2,500 people. This is not good news for the Amiga, folks, much as we might delight in Apple's problems. Commodore has much the same difficulty as Apple; the price-slashing among PC clone makers means that neither Apple nor Commodore can sustain high hardware prices. Nobody's going to be able to make much profit on computers of any variety any more, no matter how much better his system software is than DOS.

So Commodore is obviously looking to CD32 to save the company's bacon, and hoping that focusing on the Amiga line will bring back some market share—at least in desktop video.

•AC•

rough time the last few years, and the prospect of digging out of the financial mess is certainly no picnic. Still, you wonder what he knows that we don't know.

What do we know? Commodore had only \$21.5 million in cash as of March 31. The company is only worth \$30 million, which is a bit of a drop from last year's \$338 million. With its stock at \$3, the company's market value is only \$99.3 million. Commodore has \$37 million in long-term debt, and it's in default on a \$33 million loan. They lost \$177 million in their last quarter. It's not a pretty sight. Commodore's got to be looking for a sugar daddy who can bail them out, at perhaps some means of convincing Prudential, the holders of the majority of their debt, that they should be given some more rope. After all, there may be some money in a

PSST!

Do you know of any rumors, gossip, scuttlebutt, or just plain dirt? If so, become a professional tattletale and pass these tidbits on to:

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ARexx

Ola Olsson's "Mother of All Genies"

I solicited contributions of ARexx programs written by readers. Ola Olsson of Enosis Creative Services sent his "Mother of all Genies" JrPublisher (JrPub). I wanted to list JrPublisher, but it's just too large—over 40 pages in the main listing! It contains interesting segments of code, however. Readers wouldn't seriously want to copy 2500 lines of code anyway, and Ola kindly agreed to offer copies on disk to interested readers. Contact Ola c/o the magazine. Please contribute \$10 for his efforts. Ola says he was inspired by my idea of manipulating PostScript with ARexx and developing a Graphical User Interface (GUI). He also used some code adapted from Marvin Weinstein's and Willy Langeveld's

demos in their `rexarplib.library` docs—included on disk in *The ARexx Cookbook* or available to download from BIX. The `WaitPkt()` and `GetPkt()` functions from the `rexsupport.library` communicate with the GUI to collect user input. Since I have never covered these functions before, I want to focus on that part of Ola's code, and only discuss generalities otherwise. The main reason I want to showcase Ola's work is to demonstrate that a self-proclaimed "non programmer" can indeed construct a large and useful ARexx program to solve a real-world problem. Ola cautions that his JrPublisher is experimental and contains a few behavioral mysteries, but I think it's a fine result in the "first major ARexx Project" category. It works quite well, and overcomes some nasty problems in desktop publishing.

What Is JrPublisher?

It's a Genie or ARexx macro that works in *Professional Page* version 4.0A (PPage). It allows you to print 16- and 32-page Signature page layouts, or normal odd-even sequencing called Perfect. Perfect is also a form of paperback glue binding of individual odd/even pages. Saddle binding is a large signature stapled in the middle. JrPub correctly formats, number-sequences, and prints signatures, each page on one half of a sheet of standard letter or legal paper (four pages to a signature, front and back). JrPub opens a GUI constructed from Willy Langeveld's freely distributable "rexarplib.library" functions. You may output the whole document, or single signatures to update master proofs. JrPub outputs to a file (for transfer to film at your service bureau) or printer in PostScript format. JrPub even has on-line help!

The Problem

JrPub does signature page layout/numbering in publishing, and overcomes an omission by PPage to perform this function. If you use a professional printer, then you need to produce camera-ready art in either negative film or positive paper form. The print shop makes the printing plates from this art. They take your art for individual pages, and paste them together into multiple page layouts, used to make a large plate that prints 16 or 32 pages at a time on continuous rolls or large sheets of paper.

JrPublisher: ProPage Genie in ARexx to Print Signatures

by Merrill Callaway

Signatures Affects Page Sequences

As the book is bound, the pages are cropped to final size. You don't crop around all four sides of a page unless you are using a spiral binding or Perfect glue binding. Bindings are stronger and better if they are composed of multiple bundles of folded sheets, collated, and glued or sewn into the backing. Take a look at any hardback book and you can easily see this. One of these bundles of sheets is called a "signature" by printers. A printer's signature starts out as one large sheet from which either 16 or 32 pages are cut and folded into one bundle. Short manuals are frequently composed of one large signature—a bundle of folded sheets "saddle" stapled in the middle. In any case, one page is exactly one-half of one sheet of paper because of the fold down the middle. With bundles of pages made from single sheets twice as large as a page, it's fairly easy to conclude that page numbers would not be in sequence on any individual signature sheet. A problem arises, for instance, if you want to make masters from which to photocopy all the pages (5.5" x 8.5") on sheets of letter paper (8.5" x 11") and bind the manual yourself by saddle stapling in the middle.

JrPub as Print Shop

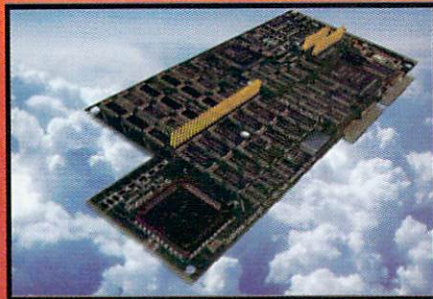
Most of us let the printer worry about signature layout, and page sequencing. We just print it out with crop/registration marks and let the printer earn his pay. But if you wish to do a low-volume photocopied manual or if you wish to make a signature proof of a ➤

OpalVision™

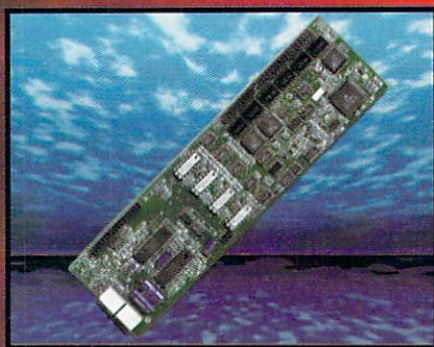
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A true 24-Bit frame buffer and display device with 16.8 million colors available for every pixel and a maximum resolution of 768 x 480 (580 PAL). An internal card, it operates automatically in NTSC or PAL mode in any Amiga computer with a video slot (including the Amiga 4000). It's powerful VLSI graphics coprocessor enables stencil modes, a host of transition effects and smooth, hardware-controlled priority switching and scrolling/panning effects. The board's state-of-the-art design allows smooth fading of pictures, color-cycling effects, and smooth, double-buffered 24-Bit animation. Includes critically acclaimed and award winning OpalPaint™, Opal Presents™ and OpalAnimMATE™ software.



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OpalVision Video Suite™

This power-packed video and audio mixing, switching and transcoding device connects directly to the Video Processor. This 19-inch, rack mountable unit is so advanced that it has its own internal computer and every aspect is software-controlled for precisely timed and accurate functionality. The Video Suite includes a wealth of inputs and outputs. There are 9 video and 10 audio inputs available, plus the 24-Bit frame store. Professional quality video inputs and outputs are available simultaneously in RGB or Y/R-Y/B-Y, Composite and S-Video. Choose any 2 sources from these inputs, assign a transition or special effect, and then trigger it manually or automatically. All of the transitions and effects provided by the OpalVision Video Processor are available for use by the Video Suite. The linear transparency key (Alpha channel and transparency effects) can be taken from the Video Processor or an external video source, and/or output to another production switcher. This allows transparency control between video sources on a pixel-by-pixel basis. The 10 Audio inputs (five stereo pairs) are fully software-sequenced with smooth fades and full, 5-band frequency equalization.



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Add this enhancement card to the Main Board and achieve 31Khz, non-interlaced output of Amiga and OpalVision graphics and animations. It also de-interlaces any incoming video source in either PAL or NTSC and includes full time-base correction of incoming video. The on-board memory also serves as a separate frame-store for dual framebuffer applications.

Feature Comparison

OpalVision™ 2.0 (Main Board, Video Processor™ & Video Suite™)

New Tek Video Toaster™ 4000

Hardware Operating Mode: Real-Time, 24-Bit RGB	Hardware Operating Mode: 8-Bit Composite Video
Supported Broadcast Standards: NTSC PAL	Supported Broadcast Standard: NTSC NO
Inputs/Outputs: 9 Video Inputs 5 Video Outputs Key in/out Master Sync In	Inputs/Outputs: 4 Video Inputs 2 Video Outputs NO NO
Supported Video Standards: Composite Video S-Video Y/R-Y/B-Y (YUV / Betacam) RGB	Supported Video Standards: Composite Video NO NO NO
Audio Mixing 5-Band Equalization 10 Audio Inputs (5 Stereo Pairs) 2 Audio Outputs (1 Stereo Pair)	NO NO NO NO
35ns Character Generator	35ns Character Generator
Compatible with all Amiga 3D software	Includes Lightwave™ 3D
Full-Color, 24-Bit, real-time animation playback in multiple modes	HAM-8, Maximum 256,000 color animation playback generated through Amiga 4000, not the Video Toaster Hardware
Genlock with Luma Keying	Genlock with Luma keying
Chroma Keying on any color	NO
Video Sandwich Keying	NO
Transparency Keying	Transparency Keying
Integrates into the Amiga Environment Frame Buffer accessible by all Amiga Software	Takes over the machine Limited Frame Buffer accessibility to 3rd party software
Numerous pre-set DVE effects Vector-based effects editor for unlimited custom effects.	Numerous, pre-set DVE effects NO
Optional de-interlacing of Video and Graphics	NO
Includes Award-Winning OpalPaint™ software with real-time 32-Bit painting	Includes Toaster Paint™. Operates in inferior quality HAM mode, renders to composite software for viewing
Time-Base Correction unnecessary for Frame Grabbing	Time-Base Correction usually required for Frame Grabbing

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"...an enormous range of creative possibilities."

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"The overall champion of Amiga paint programs."

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"The verdict was unanimous...Brilliant."

— Amiga Shopper

"It's a spectacular product"

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— Amiga Video Journal

"...the finest, most versatile paint package on the Amiga."

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Video Professionals Prefer OpalVision

"We installed the OpalVision Main Board in an Amiga 4000 last September and it has worked very well for our company. In animation work, the ability to show a client motion tests at thirty frames a second via OpalAnimMATE is a great help as well as an outstanding sales tool. Sit a prospective client down and go through four or five past animation projects (playing back in real time with OpalVision rather than using video tape) and you've got a heck of a presentation.

The OpalPaint software is a great timesaver also, turning out beautiful still graphics with ease. The ability to use scalable fonts with Workbench 3.0 puts this system into the Paintbox® class for rendering fonts. The extremely advanced software and the fact that OpalVision outputs an RGB signal rather than NTSC gives it the edge over the competition. You can output directly to component devices and never go through composite video. At Sinister Video, we researched all the 24-bit systems available and decided on OpalVision. We've never looked back."

— Mac McAlpin, Sinister Video Group, Los Angeles



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Created by:
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Sydney, Australia

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Circle 147 on Reader Service card.

finished book with PPage, or if you are a printer outputting via PostScript to film, it's not a trivial problem! Unfortunately, PPage has no facility to print pages in anything but sequential order, so you cannot just print signatures with it. That's where JrPub comes to the rescue!

Installation

There are a few caveats to observe with JrPub. You must assign the directory JrPub: to its path:JrPub. It contains an IFF picture and help files that, if not found, will not let the program start. All ARexx programs go into your REXX: assigned directory. Ola says that the main program will not start as a genie directly, so there is a start program to fire it up externally. I verified this. The fault seems to lie inside PPage's ARexx facility. If you try a direct launch, you get an error output in PPage's error window that makes no sense. The regular ARexx trace console doesn't trap any errors, so I believe that PPage is off somehow.

Set System Prefs

In order to get the GUI window to open, you need to set your text overscan Prefs to 718 x 234 at least. Then set your graphics overscan to the same. Now set your screen mode Prefs to Hi-Res Interlaced, four color. Click on the "default" buttons for screen size, and save. The GUI opens a really large window. If you keep a "standard" 640 x 400 Interlaced screen, you will lose the bottom of the GUI.

Operation

Open a document that has page size set at one-half of a standard sheet of letter or legal paper. Ola includes a Genie to make an appropriately sized document if there isn't one loaded already. After you click on the Genie button, a JrPub window comes to the front. It has controls for every aspect of the program's output.

There are two menu items, one to quit and one for help. After you toggle a checkmark next to "help," whenever you click on buttons, help text appears on a blank segment of the window. Out of help mode, once you have selected your options, press the print button and your document prints to paper or film in the type of format (signature or perfect) you have selected. Ola hasn't found a way to stop the Genie once you hit Print. I succeeded in stopping it by keeping a Shell open on the GUI window, and if I needed to stop, I entered the ARexx Command Utility Halt Interrupt by typing HI at the prompt. This halts all ARexx activity, including, unfortunately, the GUI window's. You need to launch a second ARexx program (included) to close the GUI window manually. These are small annoyances yet to be eliminated in Ola's next version. They are minor compared to the work this Genie does. Now we'll look at some interesting GUI code.

How an ARexx GUI Works

Willy Langeveld's rexxarplib.library contains an assortment of functions that are called "hooks" into the Amiga's GUI called "Intuition." Intuition controls windows and gadgets and menus. ARexx has no graphical capabilities whatsoever, but it can access shared libraries by calling their functions, indirectly registering events such as gadget presses etc., and reacting to them. Keep in mind that a GUI is not your program; it simply lets you launch your program(s) in more attractive ways. GUI code can be interleaved with your program code, but it may not be such a good idea.

The library rexxarplib.library lets you CALL CreateHost(controlport,notifyport) to create a host application called "controlport" and for it to "listen" at a port called "notifyport." JrPub uses MANUALHOST and MANUALPORT, respectively for these names. Basically, if you want to do something like opening a window or adding a gadget to the window, you do so through the controlport, MANUALHOST. If you want to respond to an IDCMP (Intuition Direct Control Message Port) event (such as clicking on a gadget), you do it through MANUALPORT, the "notifyport". Within the window, you may Call AddGadget(MANUALHOST,...) to put in a button for instance. That button will send some message text to MANUALPORT if it is

clicked; and the program, "listening" for a message at MANUALPORT, reacts by opening requesters or printing, etc. Listing 1 is the first few pages of the rather lengthy JrPub program. Listing 2 shows a little of how the GUI window is set up.

Notes

Listing 1: After loading libraries, JrPub looks for PPage's ARexx port, "PPAGEAREXX", and turns off screen updates. PPage functions prefixed with "ppm_" are to be used by external calls. PPage implements an ARexx Function Host instead of the more usual Command Host. In a nutshell, a function host is global. You do not need to change the Address to a host application's port. ARexx searches the current directory and then a prioritized list of directories until it finds the function. If a duplicate function exists, problems will occur if ARexx searches for it first in the directory that contains the wrong function of the same name. That's why PPage prefixes its externally called functions: to reduce ambiguity.

After the "CALL hostwindow" instruction calls the window set up procedure in Listing 2, and PPage document control functions have been completed, we come to Processing Gadget Input. The gadget interaction is implemented as a large DO FOREVER loop. Next is the interesting part: t = WAITPKT(MANUALPORT), which tells ARexx to wait for a message packet arriving at the ARexx notifyport named "MANUALPORT" (variable t isn't used by the program; t = 1 as soon as a message is received). A click on a gadget triggers the sending of the message packet. The gadgets to be clicked are coded in Listing 2.

Once a message comes to MANUALPORT, the program enters a DO ff=1 loop. The dummy counter, "ff" never counts anything. There is nothing to test or count. A plain DO would do, except that "ff" identifies this loop in case we need to "LEAVE ff". Next, p=getpkt(MANUALPORT) assigns the message string to the token, p, as a character string.

A Character to Decimal C2D() ARexx function converts the message string to a value, and if it's 0, we leave the loop. Next the GETARG(p) extracts all the arguments from the message packet arriving via the GETPKT() function, and the value is assigned to the variable, command. This command is just the gadget's ID string, because they were set to send their ID string if clicked. The REPLY(p,0) replies to the sender the original message (not used) and a return code, RC of 0, which means "message successfully received." So the sequence in all ARexx Interprocess Control (IPC), is WAITPKT(), GETPKT(), GETARG(), and finally REPLY().

The rest of the listing is a large SELECT block to process all the different gadgets which could have been clicked. What does the code look like for the clicked gadget? Listing 2 (incomplete) shows some of the GUI code. The gadgets that interact with the program look like:

```
CALL AddGadget(MANUALHOST,(r4x+170),(r4y+30),"start"," Start ","%d")
CALL SetGadget(MANUALHOST,"start",on)
```

The arguments: host address, x, y screen coordinates; (Here Ola has wisely made the program compute the coordinates so that if he moves anything, he just has to change the master variables of one key gadget, and all the rest are referenced from that one); "start" is the "gadget ID" string; the next argument is the text in the button itself (note the spaces to make the button the right length); and the "%d" code says to send the gadget ID as the "message text." If you find the second WHEN block in the listing, you may see how this message winds up being processed. The SetGadget() functions highlight or turn off gadgets. GUI logic is complex, but eventually your life as a user becomes easier!

Suggestions

Most of the DO and END statements in Listing 2 are unnecessary. The main program is unnecessarily large. I would separate the GUI, the program calculations, and the PostScript manipulations. I'd carry procedures outside as modular, external functions. This would make mysteries and bugs much easier to trace. I would have prototyped this program as a Shell program using arguments and/or lists of global variables as defaults. After it worked, I would have

constructed the GUI to implement the actions. Solve the problem first.

The inability to interrupt the program once it starts printing is a logic error. Because of the way the IDCMP events are set up in a DO FOREVER loop, each iteration of the loop has to RETURN before it can retrieve and process another event such as a "quit" message. Since the various print activities are nested, and write the PostScript output a line at a time to the PAR: device, nothing short of a drastic Halt Interrupt can abort the program. I would have coded my gadgets to launch stand-alone ARExx programs rather than have my window host talk to itself, and do the work, too, as in the DO FOREVER loop. I would have used "REXX" as my notifyport instead of the window port MANUALPORT. Any individual ARExx program running as a separate task could easily be interrupted using a SIGNAL ON BREAK_C instruction. If we insisted on retaining the DO FOREVER loop, we would need to recode the printing process to launch asynchronously so that our loop could continue to receive IDCMP events. I believe this would present unnecessarily tangled and hard-to-trace program flow, however. On the whole JrPub is a very useful program. Keep up the good work, Ola!

Listing One

```
/* $VER: JrPublish.rexx 1.40 Feb.22.1993 11:58:19
 *
 * Copyright © 1993 Enosis Creative Services, All Rights Reserved.
 * Written by Ola Eric Olsson
 *
 */

/*****
 * This "Genie" allows printing of "saddle-stitched"
 * manuals/books, "perfect-bound" manuals/books, and 8-, 16-,
 * 32-page signatures. The only constraint to the user is that the
 * pages must be one half the size of a standard letter or
 * legal size piece of paper (5.5"x 8.5" and 7"x 8.5"
 * respectively). Also printing must be black only to allow use
 * of other process colors as design-grid and margin lines
 * within the template. Did I mention that this is to be used
 * with PPage?
 *****/

/*****
 * pen colors are: 1=black, 2=white, 3=blue, 4=grey
 *****/

OPTIONS RESULTS
/*
TRACE commands
*/

libs.1 = 'rexxsupport.library'
libs.2 = 'rexxarplib.library'

DO i = 1 to 2
  library = EXISTS("libs:"||libs.i)
  IF library = 1 THEN
    DO
      IF -SHOW('L',libs.i) THEN CALL ADDLIB(libs.i,0,-30,0)
      IF -SHOW('L',libs.i) THEN
        DO
          message = "Can't load "||libs.i
          CALL abort_msg (message)
        END
      END
    ELSE
      DO
        message = "Can't find "||libs.i
        CALL abort_msg (message)
      END
    END
  END

IF SHOW('P','PPAGEAREXX') = 1 THEN
DO
  CALL ppm_AutoUpdate(0)

  papermode = ''
  error = ''
  badpage. = ''
  px = 1
  OK.bool = ''
  cr = '0a'x

  totalpages = ppm_NumPages()
  IF totalpages = 0 THEN
    DO
      message = "There is no document loaded!"||cr
      message = message||"Load a document or use the"||cr
      message = message||"JrPubDoc Genie to create a new doc."
    END
  END
END
```

```
CALL abort_msg (message)
END

pagesize = PPM_GetPageSize(1)
PARSE VAR pagesize xsize ysize
IF xsize = 5.5 & ysize = 8.5 THEN papermode = 1
IF xsize=7 & ysize=8.5 THEN papermode = 2

IF papermode = '' THEN
DO
  message = "First page is wrong size."
  CALL abort_msg (message)
END
ELSE
DO
  OK.bool = 1
END

DO i = 1 to totalpages
  curmode = ''
  pagesize = PPM_GetPageSize(i)
  PARSE VAR pagesize xsize ysize
  IF xsize = 5.5 & ysize = 8.5 THEN curmode = 1
  IF xsize=7 & ysize=8.5 THEN curmode = 2
  IF curmode ~= papermode THEN
    DO
      error = px
      badpage.px = i
      px = px + 1
    END
  END
END

END
ELSE
DO
  message = "Can't find ProPage Arexx port!"
  CALL abort_msg (message)
END

CALL hostwindow

CALL screentofront()

CALL paper.txt

IF error ~= '' THEN
DO
  CALL error.txt
  cancel = "Abort"
  okay = "Continue"
  text = error||" of your pages are out of range."
  text = text||"\Do you wish to continue?"
  pagerr = REQUEST(350,120,text,,okay,cancel)
  IF pagerr = "" THEN
    DO
      CALL abort
    END
  ELSE
    DO
      CALL SetAPen(MANUALHOST,4)
      CALL
      RectFill(MANUALHOST,(r1x+8),(r1y+20),(r1x+340),(r1y+240))
    END
  END
END

start_again:

/*****
 * Processing Gadget Input
 *****/

quitflag = 0
DO forever
  IF quitflag = 1 THEN LEAVE
  t = WAITPKT(MANUALPORT)
  DO ff = 1
    p = getpkt(MANUALPORT)
    IF c2d(p) = 0 THEN LEAVE ff
    command = GETARG(p)
    t = REPLY(p,0)

  SELECT
    WHEN command = CLOSEWINDOW THEN CALL abort

  /***** Print Gadgets *****/

  WHEN command = 'copies' THEN
    DO
      IF help.bool = 1 THEN
        DO
          CALL help.txt
        END
      ELSE
        DO
          copy.bool = 0
          DO WHILE copy.bool = 0
            copies = REQUEST(350,150,"Enter number of copies.",,
              copies,"Okay")
            IF copies ~= "" & copies > 0 THEN
              DO
                copytype = DATATYPE(copies)
                IF copytype = NUM THEN
                  DO
                    IF copies ~= "" THEN copy.bool = 1
                  END
                END
              END
            END
          END
        END
      END
    END
  END
```



```

END
CALL copiesto
END

END

WHEN command = 'start' THEN
DO
IF help.bool = 1 THEN
DO
CALL help.txt
END
ELSE
DO
start.bool = 0
DO WHILE start.bool = 0
range = 0
DO WHILE range = 0
start = REQUEST(350,150,"Enter start page.",start,"Okay")
IF start >= 1 & start <= endd THEN
DO
range = 1
END
ELSE
DO
text = "Number out of range."
status = postmsg(350,150,text)
CALL DELAY(150)
status = postmsg()
END
END
END

IF format.bool = 1 THEN
DO
IF start//2 = 0 THEN
DO
startype = DATATYPE(start)
IF startype = NUM THEN
DO
IF start = "" THEN start.bool = 1
END
END
ELSE
DO
text = "Start number must be odd."
status = postmsg(350,150,text)
CALL DELAY(150)
status = postmsg()
END
END
END
CALL fromto
END

END

WHEN command = 'end' THEN
DO
IF help.bool = 1 THEN
DO
CALL help.txt
END
ELSE
DO
end.bool = 0
DO WHILE end.bool = 0
range = 0
DO WHILE range = 0
endd = REQUEST(350,150,"Enter end page.",endd,"Okay")
IF endd >= start & endd <= last THEN
DO
range = 1
END
ELSE
DO
text = "Number out of range."
status = postmsg(350,150,text)
CALL DELAY(150)
status = postmsg()
END
END
END
IF format.bool = 1 THEN
DO
endtype = DATATYPE(endd)
IF endtype = NUM THEN
DO
IF endd = "" THEN end.bool = 1
END
END
END
CALL fromto
END

END

WHEN command = 'laser' THEN
DO
IF help.bool = 1 THEN
DO
CALL help.txt
END
ELSE
DO
CALL SetGadget(MANUALHOST,'disk',off)
CALL SetGadget(MANUALHOST,'laser',on)
path.bool = 1
print.bool = 1
prpath = tpath
CALL pathreset

```

```

fntdwn = "0"
END

END

WHEN command = 'perfect' THEN
DO
IF help.bool = 1 THEN
DO
CALL help.txt
END
ELSE
DO
CALL SetGadget(MANUALHOST,'perfect',on)
CALL SetGadget(MANUALHOST,'16page',off)
CALL SetGadget(MANUALHOST,'saddle',off)
CALL SetGadget(MANUALHOST,'32page',off)
CALL clearfromto
format.bool = 1
IF sig.bool = 1 THEN
DO
CALL RemoveGadget(MANUALHOST,"allsigs")
CALL RemoveGadget(MANUALHOST,"onesig")
CALL SetAPen(MANUALHOST,4)
CALL RectFill(MANUALHOST,(r4x+169),(r4y+25),(r4x+345),(r4y+44))
CALL AddGadget(MANUALHOST,(r4x+170),(r4y+30),"start"," Start
", "%d")
CALL SetGadget(MANUALHOST,"start",on)
CALL AddGadget(MANUALHOST,(r4x+240),(r4y+30),"end"," End ", "%d")
CALL SetGadget(MANUALHOST,"end",on)
CALL copiesto
CALL fromto
END
sig.bool = 0
END

END

WHEN command = 'saddle' THEN
DO
IF help.bool = 1 THEN
DO
CALL help.txt
END
ELSE
DO
CALL SetGadget(MANUALHOST,'perfect',off)
CALL SetGadget(MANUALHOST,'16page',off)
CALL SetGadget(MANUALHOST,'saddle',on)
CALL SetGadget(MANUALHOST,'32page',off)
CALL sigs /* clearfromto */
remainder = last//4
IF remainder=0 THEN format.bool = 2
IF remainder=0 THEN
DO
text = "Document size must be"
text = text||"\divisible by 4."
text = text||"\Do you want to append the"
text = text||"\document by "||(4-remainder)||" page(s)?."
perf = REQUEST(350,150,text,,"Okay","Cancel")
case = remainder//2
IF case = 0; THEN case=3; ELSE; case=2
i = ""
IF perf = "OKAY" THEN
DO
DO i = 1 to (4-remainder)
text = "Creating page number "||(last+i)
status = postmsg(350,150,text)
CALL PPM_CreatePage(last+i,1,case,0,0)
status = postmsg()
IF case=2; THEN case=3; ELSE; case=2
END
format.bool = 2
last = PPM_DocLastPage()
endd = last
CALL fromto
END
ELSE
DO
CALL SetGadget(MANUALHOST,'saddle',on)
CALL SetGadget(MANUALHOST,'32page',off)
CALL SetGadget(MANUALHOST,'perfect',off)
CALL SetGadget(MANUALHOST,'16page',off)
END
END
END

END

WHEN command = '16page' THEN
DO
IF help.bool = 1 THEN
DO
CALL help.txt
END
ELSE
DO
CALL SetGadget(MANUALHOST,'perfect',off)
CALL SetGadget(MANUALHOST,'16page',on)
CALL SetGadget(MANUALHOST,'saddle',off)
CALL SetGadget(MANUALHOST,'32page',off)

CALL sigs

remainder = last//16
IF remainder = 0 THEN format.bool = 3
IF remainder=0 THEN
DO

```



```

text = "Document size must be"
text = text||"\divisible by 16."
text = text||"\Do you want to append the"
text = text||"\document by "||(16-remainder)||" page(s)?."
perf = REQUEST(350,150,text,, "Okay", "Cancel")
case = remainder//2
IF case = 0; THEN case=3; ELSE; case=2
i = ""
IF perf = "OKAY" THEN
DO
CALL temp.check
DO i = 1 to (16-remainder)
text = "Creating page number "||(last+i)
status = postmsg(350,150,text)
CALL PFM_CreatePage(last+i,1,case,0,0)
status = postmsg()
IF case=2; THEN case=3; ELSE; case=2
END
format.bool = 3
last = PFM_DocLastPage()
endd = last
CALL fromto
END
ELSE
DO
CALL SetGadget(MANUALHOST,'saddle',on)
CALL SetGadget(MANUALHOST,'16page',off)
CALL SetGadget(MANUALHOST,'perfect',off)
CALL SetGadget(MANUALHOST,'32page',off)
END
END
END
END

WHEN command = '32page' THEN
DO
IF help.bool = 1 THEN
DO
CALL help.txt
END
ELSE
DO
CALL SetGadget(MANUALHOST,'saddle',off)
CALL SetGadget(MANUALHOST,'16page',off)
CALL SetGadget(MANUALHOST,'perfect',off)
CALL SetGadget(MANUALHOST,'32page',on)

CALL sigs

remainder = last//32
IF remainder = 0 THEN format.bool = 4
IF remainder=0 THEN
DO
text = "Document size must be"
text = text||"\divisible by 32."
text = text||"\Do you want to append the"
text = text||"\document by "||(32-remainder)||" page(s)?."
perf = REQUEST(350,150,text,, "Okay", "Cancel")
case = remainder//2
IF case = 0; THEN; case=3; ELSE; case=2
i = ""
IF perf = "OKAY" THEN
DO
CALL temp.check
DO i = 1 to (32-remainder)
text = "Creating page number "||(last+i)
status = postmsg(350,150,text)
CALL PFM_CreatePage(last+i,1,case,0,0)
status = postmsg()
IF case=2; THEN; case=3; ELSE; case=2
END
format.bool = 4
last = PFM_DocLastPage()
endd = last
CALL fromto
END
ELSE
DO
CALL SetGadget(MANUALHOST,'saddle',on)
CALL SetGadget(MANUALHOST,'16page',off)
CALL SetGadget(MANUALHOST,'perfect',off)
CALL SetGadget(MANUALHOST,'32page',off)
END
END
END
END

WHEN command = 'allsigs' THEN
DO
IF help.bool = 1 THEN
DO
CALL help.txt
END
ELSE
DO
CALL SetGadget(MANUALHOST,'allsigs',on)
CALL SetGadget(MANUALHOST,'onesig',off)
allsigs.bool = 1
onesig.bool = 0
END
END
END

WHEN command = 'onesig' THEN
DO
IF help.bool = 1 THEN
DO

```

```

CALL help.txt
END
ELSE
DO
CALL SetGadget(MANUALHOST,'allsigs',off)
CALL SetGadget(MANUALHOST,'onesig',on)
allsigs.bool = 0
onesig.bool = 1
page.bool = 0
DO WHILE page.bool = 0
text = "Enter a page from within the"
text = text||"\signature you wish to print."
page = REQUEST(350,150,text,,
1, "Okay")
IF page = "" & page > 0 THEN
DO
pagetype = DATATYPE(page)
IF pagetype = NUM THEN
DO
IF page = "" THEN page.bool = 1
END
END
END
END

END

WHEN command = 'paper' THEN
DO
IF help.bool = 1 THEN
DO
CALL help.txt
END
ELSE
DO
CALL SetGadget(MANUALHOST,'paper',on)
CALL SetGadget(MANUALHOST,'film',off)
media.bool = 1
sigstat = "0 0 0 0 8.5 11 8.5 5.5 0"
PARSE var sigstat psm psn psr cropstat pgx pgy xoff yoff1 yoff2 .
END
END

WHEN command = 'film' THEN
DO
IF help.bool = 1 THEN
DO
CALL help.txt
END
ELSE
DO
CALL SetGadget(MANUALHOST,'paper',off)
CALL SetGadget(MANUALHOST,'film',on)
media.bool = 2
sigstat = "1 1 1 1 11 14 9.75 7 1.5"
PARSE var sigstat psm psn psr cropstat pgx pgy xoff yoff1 yoff2 .
END
END

WHEN command = 'prdevice' THEN
DO
IF help.bool = 1 THEN
DO
CALL help.txt
END
ELSE
DO
IF path.bool = 1 THEN
DO
tpath = ""
DO WHILE tpath = ""
tpath = REQUEST(350,150,"Enter new device name.",,
prpath,"Okay")
IF tpath = "" THEN prpath = tpath
END
CALL pathreset
END
END
END

WHEN command = 'disk' THEN
DO
IF help.bool = 1 THEN
DO
CALL help.txt
END
ELSE
DO
CALL SetGadget(MANUALHOST,'laser',off)
CALL SetGadget(MANUALHOST,'disk',on)

path.bool = 0
print.bool = 0
diskpath = Getfile(350,50,filepath,, "Choose file path.",,nofiles)
IF diskpath = "Ram Disk:" THEN diskpath = "ram:"
prpath = diskpath
CALL pathreset
filename = ""
DO WHILE filename = ""
filename = REQUEST(350,150,"Enter file
prefix.", "Document", "Okay")
END
END
END
END

```

(continued to page 88)



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CanDo: An Interactive Authoring Tool

Part 2 - Documents, User-Defined Variables, & Databases

by Randy Finch

Welcome to the second part of a series of articles about CanDo. I hope you enjoyed the first part comparing CanDo 2.0 with Visual Basic 2.0 for the Windows environment. I have just received Visual Basic 3.0 and am anxious to install it and try it out. I also understand that Inovatronics will soon release CanDo 2.5. I don't know any of the new features it will offer except the support of AmigaDOS 3.0 and AGA graphics. Well, onward and upward! As I promised, this installment discusses using CanDo documents in conjunction with user-defined variables as well as getting you started with database programming.

First off, let me say that it is not my intent to present a detailed tutorial of the CanDo programming language in this article. Rather, I will be showing you how to combine various features of CanDo to perform interesting and useful tasks. If you have any questions about the syntax of any statements in my programs, I refer you to the CanDo manual or the on-line help system available in the CanDo software.

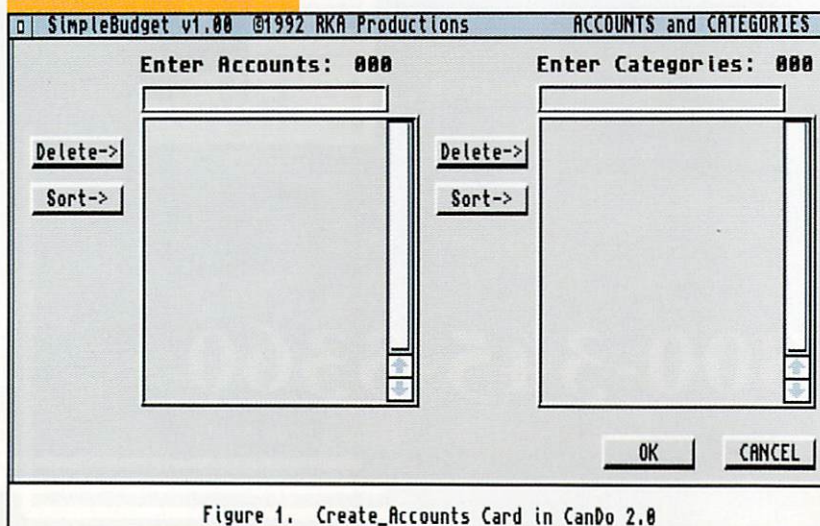
I will be presenting two programs. The first shows you how documents and user-defined variables can be combined in a useful way. The technique presented can be used in many different applications. The second program shows how easy it is to develop database applications with CanDo.

Excerpts from a Simple Budget

The first program I will present is an excerpt from an application I am writing entitled SimpleBudget. As you may have guessed, this is a home budgeting application. While writing SimpleBudget, I had to use documents and user-defined variables extensively. The program excerpt I will be discussing is centered around one of several cards and its support routines. The purpose of this card is to allow the user to enter the names of the financial accounts he or she has and the names of the different categories each account is

divided into. For instance, the user may have one account named Checking which is divided into categories such as Car Payment, Mortgage, Food, Clothes, etc. and another account named Savings with categories of Johnny's Education and Sue's Summer Trip. Each of these accounts represents an actual account at a bank, credit union, or other financial institution. The categories are just artificial divisions of the accounts created by the user for budgeting purposes.

The card shown in Figure 1 is named Create_Accounts. On the card are several CanDo objects. There are two TextField objects named Field_Account and Field_Category. They are the two beveled rectangles near the top of the screen and are used for entering new account and category names. Directly under these objects are two large beveled boxes, which are List objects



named `Document_Accounts` and `Document_Categories`. They are used to display lists of account and category names. Finally, there are six `TextButton` objects. The two to the left of the `Document_Accounts` list object are named `DeleteAccount` and `SortAccount`. The first allows the user to delete a single selected account while the latter causes the program to sort the list of account names. The two `TextButtons` to the left of the `Document_Categories` are named `DeleteCategory` and `SortCategory`. They perform the deleting and sorting of the category names. The final two `TextButtons` are located in the lower right corner of the screen and are named `OK` and `Cancel`. The first allows the user to accept the changes made to the account and category names while the latter allows the changes to be discarded.

The `Create_Accounts` card also contains four text strings: "Enter Accounts:", "Enter Categories:", and two "000" strings. The latter two strings will be continually updated by the program to keep the user informed about the current number of accounts and categories in the two `List` objects. Figure 2 shows how the card may look after adding some accounts and categories. Notice that the account named `Checking` has been selected by the user. This account has five categories associated with it: `Car Payment`, `Church`, `Clothes`, `Food`, and `House Payment`.

The Paper Work

Now that the user interface has been laid out and we know how it should function, it's time to do a little paper work. We must decide how to manage the user's data. This is where `CanDo`'s flexible user-defined variables become extremely useful. First, a primary variable name must be chosen. I use the controversial, yet thought-provoking name `Budget`. Several levels of secondary names will hang off this primary variable name. The variable `Budget` looks like this:

```
Budget.NumAccounts
Budget.Account[ ].Name
Budget.Account[ ].Numcategories
Budget.Account[ ].Category[ ].Name
Budget.Account[ ].Category[ ].BeginBalance.Dollars
Budget.Account[ ].Category[ ].BeginBalance.Cents
Budget.Account[ ].Category[ ].EndBalance.Dollars
Budget.Account[ ].Category[ ].EndBalance.Cents
Budget.Transactions[ ].Type
Budget.Transactions[ ].DollarsTotal
Budget.Transactions[ ].CentsTotal
```

Notice that `Budget` handles a dynamic array (represented by the brackets) of account names and a dynamic array of category names for each account along with other types of information. The entire data structure for `Budget` is quite lengthy and is not presented in its entirety. The `Create_Accounts` card only makes use of the first eight items in the structure. The other items in the `Budget` data structure are used by other cards in `SimpleBudget` and are not discussed in this article.

The nice thing about storing all of the data in a user-defined structure as presented above is that it makes it very simple to save and retrieve the data from a disk file. For example, if you want to save the `Budget` data structure, you can issue the following command within the `CanDo` code:

```
SaveVariable Budget, Filename
```

You can just as easily retrieve this data back into the `Budget` variable with this command:

```
Budget=LoadVariable(Filename)
```

This feature makes `CanDo` extremely useful for application development. It beats the heck out of having loops within loops within loops around a `PRINT` or `WRITE` command as you would need in `BASIC`.

More on the User Interface

Listing 1 shows all the information about the `Create_Accounts` card. The listing was generated by a utility that is packaged with `CanDo`, and the line numbers were added using the `AmigaDOS CLI` command "TYPE filename OPT N". When you are creating the user interface discussed earlier, you can use the information in this listing to help you lay out the interface exactly the way it appears in Figure 1. The window information for the card is shown in lines 64-77. All the information you need for laying out the various objects are shown in the `Definition` sections of the listing. Notice in lines 270-299 that there are two `TextMenu` objects attached to the card. These are drop-down menus. You do not need to add these objects if you do not want to. They simply allow an alternative to the `OK` and `Cancel` text buttons.

Adding Functionality

Once the interface is defined within `CanDo`, it is time to add functionality to it by adding code. The code can be added as event routines or as global routines. The event routines are executed when some event happens to an object or card. Global routines are subroutines that can be called from event routines or other global routines and are usually used when certain tasks need to be accomplished from within more than one routine. If the programmer does not add any code to an event routine, then nothing happens when the event occurs.

Let's start with the `Create_Accounts` card. It has two event routines: `BeforeAttachment` and `AfterAttachment` (lines 34-52 and 53-63). The former is executed just before a card is displayed on the screen and is normally used for assigning values to variables that are used by the card. The latter executes after the card is displayed

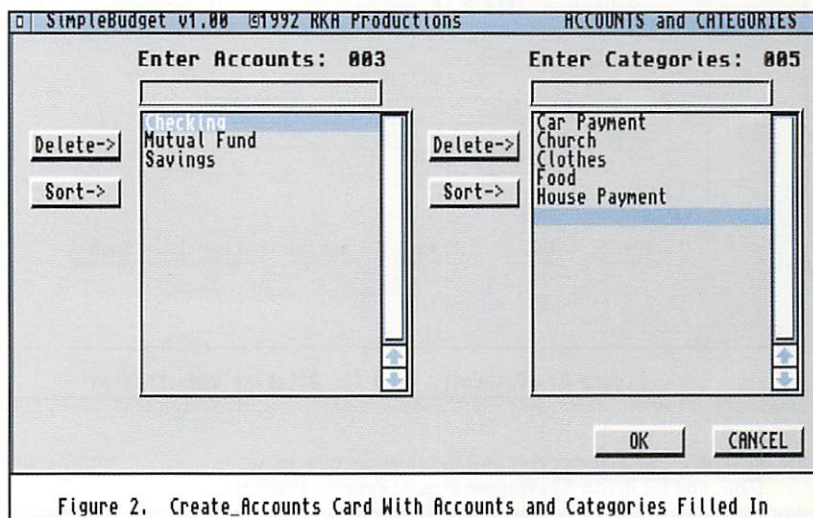


Figure 2. `Create_Accounts` Card With Accounts and Categories Filled In

and is normally used for printing text and graphics on the card.

The `BeforeAttachment` routine is extremely important for the `Create_Accounts` card. It transfers information stored in the `Budget` variable to several documents. Documents in `CanDo` are like variable length strings except that sophisticated operations can be performed on documents. Also, a document can be attached to a `List` object so that when the document changes, the `List` object is updated automatically. The `Document_Accounts` list object has the `Accounts` document attached to it (line 86); the `Document_Categories` list object has the `Categories` document attached to it (line 202). These attachment assignments are made while designing the `List` objects.

Since there is an array of category names for each account, a mechanism is needed to create a multitude of documents with different names, one for each account. Once these documents are created, the text from these documents can be moved into the `Categories` document as the user selects different accounts. This is

necessary since the name of the document attached to a List object cannot change; however, the text of the attached document can be changed. Therefore, I decided to, in essence, create an array of documents. Documents cannot actually be part of an array; thus, a little ingenuity is needed. Since documents are referenced by string variables, it is possible to use the string concatenation operator to create the document array. Each document in the array will have a name of the form Categories.AccountName where AccountName can be any of the user account names. Thus, if the user has three accounts named Checking, Savings, and MutualFund, three documents will be created named Categories.Checking, Categories.Savings, and Categories.MutualFund to store the three lists of category names for the accounts.

The BeforeAttachment routine for the Create_Accounts card is used to move the current names of accounts and categories in the Budget variable to appropriately named documents. The user can then manipulate the documents to his or her heart's content. Once the user is finished modifying the accounts and categories, he or she can select the OK TextButton or the Okay TextMenu, in which case the information in the modified documents will be put back into the Budget variable for later saving via the SaveVariable command. However, if the user selects the Cancel TextButton or the Cancel TextMenu, the document contents are not transferred back to the Budget variable, thus leaving the original values intact. Therefore,

Figure 3. DataEntry Card for Database Demo Program

the documents act as temporary storage areas for new input.

The code for BeforeAttachment is quite simple. It sets the working document to Accounts, clears it, determines the number of accounts in the Budget variable, and then uses an embedded loop to build up the Accounts document and each of the Categories.AccountName documents. Each name is inserted into the appropriate document using the Type command (lines 40 and 46). Notice the NEWLINE parameter at the end of this command. This causes the pointer for the document to advance to the next line. Without it, all the names would appear on the same line.

Global Routines

Before looking at the code in the rest of the event routines for the Create_Accounts card, let's take a look at the seven global support routines in Listings 2-8. This will help you better understand what the event routines are doing when they call one of these global routines.

Listing 2 is the Cancel Accounts routine. It is only called when the Cancel menu item is selected. (The Cancel button has the same code as part of the event routine itself. This is just to show you that there are different ways of accomplishing the same task.) This global routine simply directs the program to a card called Intro.

This is another card in the SimpleBudget application that is not discussed in this article. Take a look at line 3. CanDo does not allow a comment to reside on a line alone; it must follow a command. Therefore, the Nop (meaning "No Operation") command is used to precede the comment. This is something I want to see fixed in a future release of CanDo.

Listing 3 is the Display Categories routine. It is used to move the appropriate Categories.AccountName document into the Categories document so it will be displayed in the Document_Categories list object. Typically this routine will be called whenever the user selects an account name in the Document_Accounts object with the left mouse button. Since there can only be one working document at a time, this routine first assigns the name of the current working document, stored in the system variable DocumentName, to the variable CurrentDocument. Next, the working document is changed to Accounts and the name that is stored in the currently selected line of Document_Accounts is assigned to the variable ChosenAccount. TheLine is a system variable used to store the text of the currently selected line of the current working document. If the value of ChosenAccount is not NULL, then the working document is changed to the appropriate Categories.AccountName using the WorkWithDocument command. This command will create the document if it does not already exist. Next, the text from this document, if any, is assigned to the string

variable NewCategoryDocument. The working document is changed to Categories (the one attached to the Document_Categories object), cleared of its current text, and then assigned the text from NewCategoryDocument. At this point, the categories for the selected account will be displayed. Since the documents Accounts and Categories will always have a blank line as the last line in the document (used as the insertion point for a newly entered name), it is possible for ChosenAccount to be NULL. If this is so, the Categories document is cleared because there are no categories for this blank account name. Finally, the original working document is reset.

Listing 4 is the OK Accounts routine.

It is executed when the OK button or Okay menu item is selected by the user. It is very similar to the BeforeAttachment routine discussed earlier except it moves all of the information in the documents to the Budget variable rather than the other way around. The number of accounts and categories in each document is determined by taking the

number of lines in the document and subtracting one (lines 5 and 13). The one is subtracted because there is always a blank line at the end of the document. The system variable LinesInDocument always holds the number of lines in the current working document. The account and category names are extracted from the document by moving the cursor to the start of the appropriate document (lines 4 and 12) and using the system variable TheLine as described earlier. The document cursor is then moved through the document one line at a time (lines 23 and 27) extracting the names as it goes.

Listing 5 is the Print Num Accounts routine. It updates the display near the top of the Create_Accounts card showing the number of accounts in the Document_Accounts object. It does this by clearing the current number on the card and then displaying the new number.

Listing 6 is the Print Num Cats routine. It is identical to Print Num Accounts except it updates the number of categories displayed in the Document_Categories object.

Listing 7 is the Sort the Document routine. It sorts the current working document; therefore, the working document needs to be set before calling this routine. The main body of the sort routine (lines 5-9) is executed only if there is at least one non-blank line in the document. The SortDocument command is used to accomplish the sort and the NOCASE option is used to make the sort non-case-

sensitive. After the sort is complete, the first line will always be the blank insertion line that is normally at the end of the document. Thus, the document cursor has to be moved to the first line in the document and that line deleted. The cursor is then moved to the end of the document and the `NewLine` command is issued in order to leave the document with a blank line at the end.

Listing 8 is the `UpdateCategories` routine. It moves the contents of the `Categories` document into the appropriate `Categories.AccountName` document. This is normally done whenever the user selects a different account name to make sure that any changes made to the categories for the previously selected account are stored properly. The routine is very similar to the `DisplayCategories` routine.

Event Routines

Now it is time to look at the other event routines for the `Create_Accounts` card shown in Listing 1. I have already discussed the `BeforeAttachment` routine; let's now look at the `AfterAttachment` routine (lines 53-63). This routine puts some text on the screen and prints the number of accounts and categories via global routines. Finally, it activates the `Field_Account` object, anticipating that the first thing the user will want to do is add an account name. At this point the application will simply wait until the user does something. The code that is executed is dependent upon the user's action. Let's take a look at these possibilities.

The `Field_Account` object has two events associated with it: `OnClick` (lines 113-119) and `OnRelease` (lines 106-112). The `OnClick`

will execute. Making it an `OnRelease` routine rather than an `OnClick` routine allows the user to change his or her mind about the selection after clicking the mouse button by moving the pointer off the object before releasing the mouse button. The routine sets the appropriate working document, assigns the variable `DeletedAccount` to the name of the chosen account, deletes the account name, and then updates the number of accounts. Since the categories associated with the deleted account are no longer valid, the routine clears the `Categories.AccountName` document associated with the deleted account. Finally, the category information is updated.

The `DeleteCategory` button also has an `OnRelease` routine (lines 219-226). It deletes the chosen category and updates the category information, leaving `Field_Category` activated.

The `SortAccount` button has an `OnRelease` routine (lines 187-192) that updates the current categories list, makes `Accounts` the working document, and then calls the `Sort the Document` global routine. Remember that the working document has to be set before calling the sort routine. Finally, the `Field_Account` object is activated.

The `SortCategory` button has an `OnRelease` routine (lines 239-245) that works similarly to the `SortAccount` `OnRelease` routine.

Finally, the `OnRelease` routine (lines 132-134) for the `OK` button and the `Occurred` routine (lines 281-283) for the `Okay` menu item simply call the `OK Accounts` global routine described earlier. The equivalent routines for the `Cancel` button (lines 147-150) and the `Cancel` menu item (lines 296-298) go to another card named `Intro` (not discussed in this article).

The `BeforeAttachment` routine for the `Create_Accounts` card is used to move the current names of accounts and categories in the `Budget` variable to appropriately named documents. The user can then manipulate the documents to his or her heart's content.

routine executes when the user moves the mouse pointer to the field and clicks the left mouse button. This routine sets the working document to `Accounts`, moves the cursor to the last line in that document, and then updates the categories. The `OnRelease` routine executes when the user presses the `ENTER` key while in the field. It obtains the text from the field, inserts it into the working document, which was set to `Accounts` in the `OnClick` routine, clears the field, reactivates the field, and then updates the number of accounts. At this point, the new account name entered by the user will be shown in the list of accounts in the `Document_Accounts` list object.

The `Field_Category` object also has an `OnClick` event routine (lines 265-268) and an `OnRelease` event routine (lines 256-264). These routines perform functions similar to the `OnClick` and `OnRelease` routines for the `Field_Account` object.

The `Document_Accounts` object also has `OnClick` (lines 88-92) and `OnRelease` (lines 93-95) routines associated with it. When the user clicks on an account name in this object, the current categories are updated, the categories for the chosen account are displayed, and the number of categories is updated. The `OnRelease` routine simply activates the `Field_Category` object anticipating that the user will want to add new categories to the chosen account.

The `Document_Categories` object only has an `OnClick` routine (lines 204-206). It sets the working document to `Categories`.

The `DeleteAccount` button has only an `OnRelease` routine (lines 163-174) associated with it. When the user presses and releases the left mouse button while the pointer is over this object, this routine

I hope that this `CanDo` program excerpt has helped you see how useful user-defined variables in conjunction with pseudo-arrays of documents can be for application programming. Many different types of applications could benefit from the techniques discussed. Let's now turn our attention to some of the nice features of `CanDo` that make for easy database programming.

Database Programming

Figure 3 shows the user interface to a simple database application. The name of the card on which the interface was created is `DataEntry`; the program is shown in Listing 9. The interface consists of five `TextField` objects and six `ToggleButton` objects. The `TextField` objects are used for entering names and addresses. Every name/address combination is called a record. The `ToggleButton` objects are used to add a new record, delete an existing record, display the previous record, display the next record, load the database from disk, and save the database to disk.

Notice in Listing 9 that the names of all of the `TextField` objects have something in common; they all begin with a period. They are named `.Name`, `.Address`, `.City`, `.State`, and `.ZipCode`. When the names of these fields begin with a period, some special commands are available for moving the data in the fields to user-defined variables and vice versa. The primary variable name used in the program is `Address`. Its structure is as follows:



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```
Address[ ].Name
Address[ ].Address
Address[ ].City
Address[ ].State
Address[ ].ZipCode
```

This is a dynamic array of addresses. Notice that all the extension names match the names of the TextField objects on the DataEntry card. This is necessary for the special database commands to work properly. (However, this is essentially a moot point since user-defined variables do not have to be pre-defined.)

Each TextField object has an OnRelease routine that simply activates the next field on the screen. Thus, if the user types a name in the .Name field and presses ENTER, the .Address field will be activated and so on. This allows the user to easily enter data for a record without having to activate each field with a mouse click. When ENTER is pressed in the .ZipCode field, the .Name field is reactivated. The six TextButton objects also have OnRelease routines associated with them. Let's take a look at them in order.

The Add button is used to add another record to the Address variable. The OnRelease routine (lines 129-134) uses the GetDBObject system variable. This variable, when assigned to the current record of the Address variable, which is numbered CurIndex, moves the values of all the specially named fields on the DataEntry card into the Address variable. (Nice, huh?) This, in essence, stores the currently displayed record. Next, CurIndex is incremented, a new blank record is inserted into the Address array using the InsertArrayEntry command, and the global routine Show Record is called to display this newly inserted blank record on the screen ready for user input.

Listing 10 shows the global routine Show Record. It uses the SetDBObject command. This command extracts the current record from the Address variable and displays the components of the record in the appropriate fields on the card. (Also nice, huh?) Next, the window title for the card is changed to reflect the new record

number, and the .Name field is activated, awaiting additional user input.

Now we return to Listing 9 and the Delete button. The OnRelease routine (lines 147-153) for this button first deletes the current record using the DeleteArrayIndex command. If the record being deleted is the last one in the database, then the variable type (obtained with the VarType function) of Address[CurIndex] will now be equal to "Nothing" since it does not exist. If this is the case, the LastArrayIndex function is used to determine the actual index of the last record in the Address variable. This value is assigned to CurIndex. Finally, this record is displayed.

The OnRelease routine for the Prev button (lines 166-173) stores the current record, determines the previous record number using the PreviousArrayIndex function, and shows this record. If there is no previous record, meaning the one currently shown is the first in the array, then the system variable SearchFound will be set to FALSE when the PreviousArrayIndex function is executed. In this case, the current record is set to the last record in the database.

The OnRelease routine for the Next button (lines 186-193) works the same as the Prev button routine except it searches forward in the array using the NextArrayIndex function. If there is no next record, then the first record is displayed. This, in combination with the first-to-last looping of the Prev button makes the database circular rather than linear. This is like allowing a King-Ace-Two spread in rummy.

The Load button's OnRelease routine (lines 206-214) deletes all the data in the Address variable using the Dispose command. It then uses the AskForFilename function to display a file requester on screen. Once the user selects a filename and closes the requester, the filename is returned to the variable FN. If this file exists, it is loaded into the Address variable using the LoadVariable function, and the first record is displayed.

Finally, the OnRelease routine for the Save button (lines 227-231) stores the currently displayed record, obtains a filename from the user, and then uses the SaveVariable command to save the data in the Address variable to the file.

Of course, this database program is very simple and more code needs to be added to make it a usable program. However, my intent is to help you become familiar with how the special database commands and functions are used.

Closing Comments

Well, that's about enough, don't you think? You are probably tired of reading, and I know I am tired of banging these blasted keys on my computer keyboard. I hope this article has helped you to appreciate the invaluable tools available in CanDo for writing application software for the Amiga computer.

Listing One

Listing 1. Interface Information and Event Routines

for Create_Accounts Card in CanDo 2.0

```
1 *****
2 * Deck "CanDo-Part2-Program"
3 * Time 13:19:34
4 * Date 06/27/93
5 *****
6
7 *****
8 * Card(s) in deck.
9 * Card "Create_Accounts"
10 *****
11 * 1 Card(s), 1 were printed.
12 *****
13
14 *****
15 * Natural order of Cards
```



```

16 * Card "Create_Accounts"
17 *****
18
19 *****
20 * Global Routine(s) in deck.
21 * Routine "Cancel Accounts" (was not printed)
22 * Routine "Display Categories" (was not printed)
23 * Routine "OK Accounts" (was not printed)
24 * Routine "Print Num Accts" (was not printed)
25 * Routine "Print Num Cats" (was not printed)
26 * Routine "Sort the Document" (was not printed)
27 * Routine "Update Categories" (was not printed)
28 *****
29 * 7 Global routines(s), 0 were printed.
30 *****
31
32 *****
33 * Card "Create_Accounts"
34 BeforeAttachment ; used to be OnStartup
35   WorkWithDocument "Accounts"
36   Clear DOCUMENT
37   Let NumAccounts = Budget.NumAccounts
38   Let I = 1
39   While I <= NumAccounts
40     Type Budget.Account[I].Name,NEWLINE
41     WorkWithDocument
42     Clear DOCUMENT
43     Let NumCategories =
44     Budget.Account[I].NumCategories
45     Let J = 1
46     While J <= NumCategories
47       Type
48       Budget.Account[I].Category[J].Name,NEWLINE
49       Let J = J+1
50     EndLoop
51     WorkWithDocument "Accounts"
52     Let I = I+1
53   EndScript
54 AfterAttachment ; used to be AfterStartup
55   SetPrintFont "topaz",9
56   SetPrintStyle BOLD,2,3
57   SetPen 1,0
58   SetDrawMode JAM1
59   PrintText "Enter Accounts:",102,18
60   PrintText "Enter Categories:",410,18
61   Do "Print Num Accts"
62   Do "Print Num Cats"
63   SetObjectState "Field_Account",ON
64 EndScript
65 Window "UserWindow"
66 Definition
67   Origin 0,0
68   Size 640,200
69   Title "SimpleBudget v1.00 ©1992 RKA
70   Productions ACCOUNTS and CATEGORIES"
71   NumberOfColors 4
72   WindowColors 3,1,0 ; Detail, Block,
73   Background
74   WindowObjects CLOSEBUTTON
75   WindowFlags ACTIVATE SEPARATESCREEN
76 TOPFRONT
77 EndScript
78 OnCloseButton
79 Quit
80 EndScript
81 EndObject
82 List "Document_Accounts"
83 Definition
84   Origin 106,45
85   Size 209,120
86   Font "topaz",8 ; FontName, PointSize
87   PrintStyle PLAIN,2,3 ; Style, Pen1, Pen2
88   TextColors 1,0,JAM2 ; PenA, PenB,
89 DrawMode
90 Border DOUBLEBEVEL,2,1 ; BorderStyle,
91 MainPen, ExtraPen
92 Document "Accounts" ; where the text comes
93 from
94 EndScript
95 OnClick
96 Do "Update Categories"
97 Do "Display Categories"
98 Do "Print Num Cats"
99 EndScript
100 OnRelease
101 SetObjectState "Field_Category",ON
102 EndScript
103 EndObject
104 TextField "Field_Account"
105 Definition
106   Origin 106,32
107   Size 185,8
108   Justification LEFT
109   MaxFieldLength 22
110   InitialText ""
111   Border DOUBLEBEVEL,2,1 ; BorderStyle,
112 MainPen, ExtraPen
113 EndScript
114 OnRelease
115 Let AcctName = TextFrom("Field_Account")
116 Type AcctName,NEWLINE
117 SetText "Field_Account",""
118 SetObjectState "Field_Account",ON
119 Do "Print Num Accts"

```

```

112 EndScript
113 OnClick
114   WorkWithDocument "Accounts"
115   MoveCursorTo END OF DOCUMENT
116   Do "Update Categories"
117   Do "Display Categories"
118   Do "Print Num Cats"
119 EndScript
120 EndObject
121 TextButton "OK"
122 Definition
123   Origin 463,181
124   Font "topaz",8 ; FontName, PointSize
125   PrintStyle PLAIN,2,3 ; Style, Pen1, Pen2
126   TextColors 1,0,NORMAL ; PenA, PenB,
127 DrawMode
128   Text " OK "
129   Border EMBOSED,2,1 ; BorderStyle,
130 MainPen, ExtraPen
131 Highlight OUTLINE
132 ButtonFlags NONE
133 EndScript
134 OnRelease
135 Do "OK Accounts"
136 EndScript
137 EndObject
138 TextButton "Cancel"
139 Definition
140   Origin 557,181
141   Font "topaz",8 ; FontName, PointSize
142   PrintStyle PLAIN,2,3 ; Style, Pen1, Pen2
143   TextColors 1,0,NORMAL ; PenA, PenB,
144 DrawMode
145   Text " CANCEL "
146   Border EMBOSED,2,1 ; BorderStyle,
147 MainPen, ExtraPen
148 Highlight OUTLINE
149 ButtonFlags NONE
150 EndScript
151 OnRelease
152 Nop ;Change nairy a thing!!
153 GotoCard "Intro"
154 EndScript
155 EndObject
156 TextButton "DeleteAccount"
157 Definition
158   Origin 19,54
159   Font "topaz",8 ; FontName, PointSize
160   PrintStyle PLAIN,2,3 ; Style, Pen1, Pen2
161   TextColors 1,0,NORMAL ; PenA, PenB,
162 DrawMode
163   Text "Delete->"
164   Border EMBOSED,2,1 ; BorderStyle,
165 MainPen, ExtraPen
166 Highlight OUTLINE
167 ButtonFlags NONE
168 EndScript
169 OnRelease
170   WorkWithDocument "Accounts"
171   Let DeletedAccount = TheLine
172   Delete LINE
173   Do "Print Num Accts"
174   Nop ;clear the document associated with
175   the deleted account
176   WorkWithDocument
177   "Categories."||DeletedAccount
178   Clear DOCUMENT
179   Do "Display Categories"
180   Do "Print Num Cats"
181   WorkWithDocument "Accounts"
182 EndScript
183 EndObject
184 TextButton "SortAccount"
185 Definition
186   Origin 19,74
187   Font "topaz",8 ; FontName, PointSize
188   PrintStyle PLAIN,2,3 ; Style, Pen1, Pen2
189   TextColors 1,0,NORMAL ; PenA, PenB,
190 DrawMode
191   Text " Sort-> "
192   Border EMBOSED,2,1 ; BorderStyle,
193 MainPen, ExtraPen
194 Highlight OUTLINE
195 ButtonFlags NONE
196 EndScript
197 OnRelease
198 Do "Update Categories"
199 WorkWithDocument "Accounts"
200 Do "Sort the Document"
201 SetObjectState "Field_Account",ON
202 EndScript
203 EndObject
204 List "Document_Categories"
205 Definition
206   Origin 414,45
207   Size 209,120
208   Font "topaz",8 ; FontName, PointSize
209   PrintStyle PLAIN,2,3 ; Style, Pen1, Pen2
210   TextColors 1,0,JAM2 ; PenA, PenB,
211 DrawMode
212   Border DOUBLEBEVEL,2,1 ; BorderStyle,
213 MainPen, ExtraPen
214 Document "Categories" ; where the text
215 comes from
216 EndScript
217 OnClick

```



```

205      WorkWithDocument "Categories"
206      EndScript
207      EndObject
208      TextButton "DeleteCategory"
209      Definition
210          Origin 333,54
211          Font "topaz",8 ; FontName, PointSize
212          PrintStyle PLAIN,2,3 ; Style, Pen1, Pen2
213          TextColors 1,0,NORMAL ; PenA, PenB,
DrawMode
214          Text "Delete->"
215          Border EMBOSED,2,1 ; BorderStyle,
MainPen, ExtraPen
216          Highlight OUTLINE
217          ButtonFlags NONE
218      EndScript
219      OnRelease
220          WorkWithDocument "Categories"
221          Delete LINE
222          Let ChangedCategories = TRUE
223          Do "Print Num Cats"
224          Do "Update Categories"
225          SetObjectState "Field_Category",ON
226      EndScript
227      EndObject
228      TextButton "SortCategory"
229      Definition
230          Origin 333,74
231          Font "topaz",8 ; FontName, PointSize
232          PrintStyle PLAIN,2,3 ; Style, Pen1, Pen2
233          TextColors 1,0,NORMAL ; PenA, PenB,
DrawMode
234          Text "Sort->"
235          Border EMBOSED,2,1 ; BorderStyle,
MainPen, ExtraPen
236          Highlight OUTLINE
237          ButtonFlags NONE
238      EndScript
239      OnRelease
240          WorkWithDocument "Categories"
241          Do "Sort the Document"
242          Let ChangedCategories = TRUE
243          Do "Update Categories"
244          SetObjectState "Field_Category",ON
245      EndScript
246      EndObject
247      TextField "Field_Category"
248      Definition
249          Origin 414,32
250          Size 185,8
251          Justification LEFT
252          MaxFieldLength 22
253          InitialText ""
254          Border DOUBLEBEVEL,2,1 ; BorderStyle,
MainPen, ExtraPen
255      EndScript
256      OnRelease
257          Let CatName = TextFrom("Field_Category")
258          Type CatName,NEWLINE
259          Let ChangedCategories = TRUE
260          SetText "Field_Category",""
261          SetObjectState "Field_Category",ON
262          Do "Print Num Cats"
263          Do "Update Categories"
264      EndScript
265      OnClick
266          WorkWithDocument "Categories"
267          MoveCursorTo END OF DOCUMENT
268      EndScript
269      EndObject
270      TextMenu "Okay "
271      Definition
272          AttachTo MENU,"Options"
273          Font "topaz",8 ; FontName, PointSize
274          PrintStyle PLAIN,2,3 ; Style, Pen1, Pen2
275          TextColors 0,1,NORMAL ; PenA, PenB,
DrawMode
276          Text "Okay "
277          MenuFlags NONE
278          Highlight COMPLEMENT
279          ShortCutKey ""
280      EndScript
281      Occurred
282          Do "OK Accounts"
283      EndScript
284      EndObject
285      TextMenu "Cancel "
286      Definition
287          AttachTo MENU,"Options"
288          Font "topaz",8 ; FontName, PointSize
289          PrintStyle PLAIN,2,3 ; Style, Pen1, Pen2
290          TextColors 0,1,NORMAL ; PenA, PenB,
DrawMode
291          Text "Cancel "
292          MenuFlags NONE
293          Highlight COMPLEMENT
294          ShortCutKey ""
295      EndScript
296      Occurred
297          Do "Cancel Accounts"
298      EndScript
299      EndObject
300      * End of Card "Create_Accounts"
301      *****

```

Listing Two

Listing 2. "Cancel Accounts" Global Routine

```

1 *****
2 * Global routine "Cancel Accounts"
3   Nop ;Change nairy a thing!!
4   GotoCard "Intro"
5 * End of routine "Cancel Accounts"
6 *****

```

Listing Three

Listing 3. "Display Categories" Global Routine

```

1 *****
2 * Global routine "Display Categories"
3   Let CurrentDocument = DocumentName
4   WorkWithDocument "Accounts"
5   Let ChosenAccount = TheLine
6   If ChosenAccount <> NULL
7       WorkWithDocument "Categories."||ChosenAccount ;Create
if nonexistent
8       Let NewCategoryDocument =
TextFromDocument("Categories."||ChosenAccount)
9       WorkWithDocument "Categories"
10      Clear DOCUMENT
11      Type NewCategoryDocument
12  Else
13      WorkWithDocument "Categories"
14      Clear DOCUMENT
15  EndIf
16  WorkWithDocument CurrentDocument
17 * End of routine "Display Categories"
18 *****

```

Listing Four

Listing 4. "OK Accounts" Global Routine

```

1 *****
2 * Global routine "OK Accounts"
3   WorkWithDocument "Accounts"
4   MoveCursorTo START OF DOCUMENT
5   Let NumAccounts = LinesInDocument-1
6   Let Budget.NumAccounts = NumAccounts
7   Let I = 1
8   While I <= NumAccounts
9       Let AccountName = TheLine
10      Let Budget.Account[I].Name = AccountName
11      WorkWithDocument "Categories."||AccountName
12      MoveCursorTo START OF DOCUMENT
13      Let NumCategories = LinesInDocument-1
14      Let Budget.Account[I].NumCategories = NumCategories
15      Let J = 1
16      While J <= NumCategories
17          Let CategoryName = TheLine
18          Let Budget.Account[I].Category[J].Name =
CategoryName
19          Let
Budget.Account[I].Category[J].BegBal.Dollars = 0
20          Let
Budget.Account[I].Category[J].BegBal.Cents = 0
21          Let
Budget.Account[I].Category[J].EndBal.Dollars = 0
22          Let
Budget.Account[I].Category[J].EndBal.Cents = 0
23          MoveCursor DOWN
24          Let J = J+1
25      EndLoop
26      WorkWithDocument "Accounts"
27      MoveCursor DOWN
28      Let I = I+1
29  EndLoop
30  GotoCard "Intro"
31 * End of routine "OK Accounts"
32 *****

```

(continued on page 77)

by Frank
McMahon

THE VIDEO SLOT!

As Amiga hardware improves so does the software to drive it. A true test of a great piece of software is the advances it takes through the years. This month in the Video Slot we'll go over some new upgrades to popular programs, including the Video Toaster, *Aladdin 4D*, *Caligari 24*, *Asim CDFS*, and *Xetec CDX* as well as find out how to access Kodak Photo CDs on an Amiga.

Toaster 3.0

Video Toaster users face a particularly hard decision, whether to upgrade their software, hardware, or both. NewTek offers various options all with varying degrees of completeness. The first is a "software only" upgrade for current owners of the Toaster card. The upgrade is available from local dealers and also from NewTek (list price at press time was \$795). By now you know what you get, so here's what you don't get: real-time animations, new AGA switcher effects, color interface screens, improved video output, and better genlock encoding. A big loss? Depends how you look at it. The new switcher effects are impressive to say the least. If you are not primarily using the Toaster for transitions between two video sources this loss shouldn't be too big of a problem. Color interface screens are nice but not mandatory. Improved video output and better genlock encoding are a big plus but this depends on what your format is. It won't be as noticeable going to VHS as it is going to one-inch tape. Real-time animations sound great but the results are not exactly up to par with single frame controlled output to tape for several reasons. First, the animations are in AGA mode and don't have quite the color depth as the regular framestores. Also the animations are lo-res. Full screen 30 frames-per-second animations only run in the Toaster's lower resolution modes on a stock 4000. If you need higher resolutions you'll need to trim your animations down to quarter screen. While the full screen animation mode isn't broadcast quality, it looks surprisingly good with *LightWave*'s great new antialiasing routines. But single-frame recording is still the way to go. So if you are mainly interested in the Toaster's real-time animation, you would get much better results with a dedicated board that plays real-time 24-bit stills off a hard drive using compression.

These are the main items you'll miss with your current 2.0 Toaster upgraded to 3.0 software. You'll still get a tremendously improved *LightWave/Modeler*, a completely redesigned *Character Generator*, *ChromaFX*, same old *ToasterPaint*, and more new features. The next option is to upgrade your current board to include the above hardware features (video output/improved genlock). Even if you put it right back in your 2000/3000, it will be "4000 ready" when you decide to upgrade your computer at a later date. The other option is to purchase a 4000 and a brand new Toaster 4000. It's important to keep in mind that NewTek is obviously developing new Toaster features around the AGA chipset and the increased bandwidth of the 4000. While you might be able to live with 3.0 software used in your 2000/3000 minus the AGA features and hardware options, the next update will probably rely even more heavily on the features of the newer Amigas. For example, a newly redesigned *ToasterPaint* rumored to be in the works would be a prime candidate for AGA mode. This would allow full-screen hi-res manipulation of framestores. Full screen animations are bound to improve with higher resolutions and faster frame rates. These advances will no doubt continue to take advantage of the AGA chipset.

NewTek offered great upgrade options this past summer including upgrading Toaster boards (for \$1195) to Toaster 4000s as well as joining with Commodore to give discounts off the price of a buying a new 4000. It's unclear if similar options will appear this fall; however, 3.0 software will continue to be available for existing Toasters through local dealers.

Aladdin 4D 2.3

Adspec Programming continues to show no slow down when it comes to continuing to push their software to the edge. *Aladdin 4D*'s latest upgrade adds numerous new features including a new bitmap texture method via texture member control called Tiles. Some new procedural textures for Tiles include: burst-sine, circles2, fireworks, radial, spiral, spiral-sawtooth, ripple1, and ripple2. This new upgrade is a math coprocessor only version that features faster rendering especially noticeable during gases, procedural textures, and shadow work. An included example states a rendering time of

13 minutes in version 2.1 as opposed to 59 seconds in 2.3! This software is getting seriously fast. You now have the option in 2.3 of scaling geo files when loading them in. New rendering modes are also included in the form of half-res and double-res mode. In double mode the program supersamples space by shooting more rays per pixel giving highly antialiased results in the final image. Half-res does the opposite, shooting fewer rays for testing purposes. A benefit with DCTV is that instead of rendering in hi-res mode you can render and display in a lower resolution (352 width) for much faster results especially during animations sessions. With the lower bandwidth of DCTV's composite output, you may not notice much difference between the half-res renders and standard hi-res (704 width) images. But you will notice they will render three to four times quicker! The interface has gotten spruced up a bit (especially the gadgets) to be more uniform with the 2.0/3.0 Workbench look. Shadow acceleration is a new feature that gives faster ray-traced shadows and is user adjustable. It uses a compression scheme that results in decreased rendering times. Gases have gotten faster as well: 20 to 50 percent faster. Also, a new method of determining the boundaries of spherical gases inside their containers has been developed, giving more accurate spherical gases from any angle; although gases are freeform, Aladdin 4D calculates them according to the containers they are enclosed in. *Retina* support is now included so users can render in full 24 bit at various resolutions. AGA support was added last version and the program still supports a large amount of framebuffers including *Firecracker*, *DCTV*, *OpalVision*, and *Resolver*.

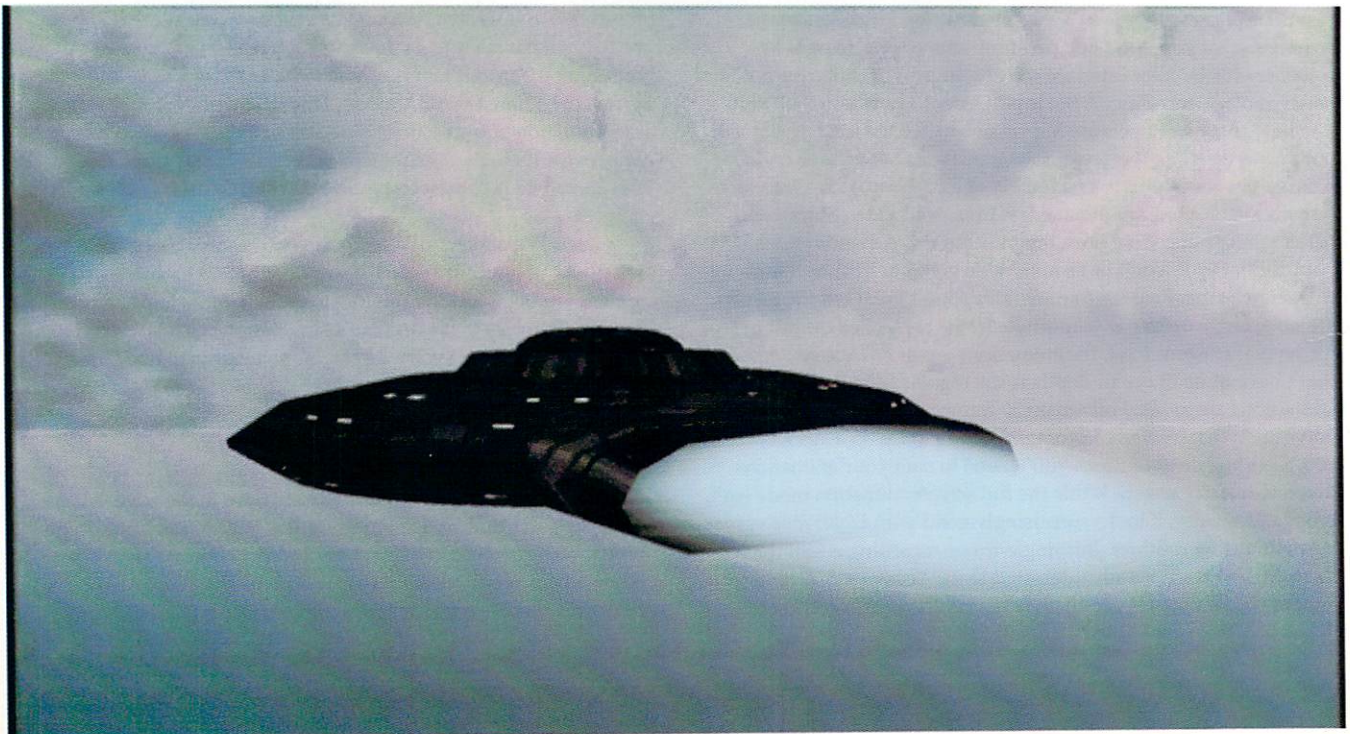
The latest issue of *Aladdin's Lamp* (#8) is just out with special features on arcs, pipes extrudes, and bitmapping. The issue also includes tutorials in print and on disk featuring a space scene and recreating an ocean, as well as a few new fonts. The big news at Adspec is the new tutorial tapes for Aladdin 4D. Each is two hours long and features Aladdin's creator Greg Gorby in step-by-step tutorials. The first volume contains tutorials on flying logo creation, making a snow storm using Aladdin's rotoscoping, an animated child's mobile, and a incredible sun/planet walk-through using gases. Volume two continues with a space scene creation, camera tracking through a maze, an insect causing rippling waves on a

pool, and flying a camera around a bitmap. While I've only begun to work my way through the sessions, I have seen enough where I can, without hesitation, highly recommend these tapes. They do unfortunately move a little too quickly and assume a basic understanding of Aladdin 4D, but for the user who knows his way around the program, these tapes offer excellent visual training to produce stunning results. The two volumes are available as a set for \$59.95 directly from Adspec Programming and the upgrade to 2.3 are available for registered users for \$41.45.

Caligari Broadcast 3.0

Octree Software has a unique upgrade available now allowing Caligari 24 users to upgrade to the new 3.0 version of Caligari Broadcast for \$199. What's in the new version? Quite a bit for power users! One major advance is that free-form deformation is now available on an animation level through the standard keyframe interface. Polygon subdivision is available at each frame for smooth progressive surfaces as the object deforms; this creates additional polygons automatically as needed when an object changes shape. Also added is much improved z-buffered quick rendering with or without gourand shading for added speed. Interactive painting has been added for painting across a whole hierarchy at once rather than selecting single sub-objects. New also is visible lights. Yes, you heard it right. You finally get to see your lights in Caligari. Smooth divide is a new tool which will automatically refine the geometry of existing objects by adding new polygons while maintaining the surface curvature. IFF24 and 1-D environmental maps can now be used as backgrounds. Also, all background/foreground merging is now done during the rendering process. RGB, HSV, and CMY sliders are now available via sliders or numerical entry.

The new update has been optimized for 68040 users. *Wavefront* files can now be loaded and Caligari preserves the material attribute grouping. Object file importation has been enhanced to automatically create hierarchies and generate better optimized line lists. *Imagine* file importing now sports better material attribute support as well as support for *Turbo Silver* materials. Rendered images can be saved in IFF24 format in resolutions up to 8000 x 8000. Primitives



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Circle 114 on Reader Service card.

have been redesigned to include correct smooth/facet shading and built-in texture mapping information. Other improvements include better HAM8 palette generation and two new gluing methods. All in all this is an impressive set of new features and a nice upgrade path for Caligari 24 users who want more power in their 3-D rendering system.

CD-ROM—AsimCDFS 2.0 and Xetec CDX 1.65

We've talked about CD-ROM options in past articles. One of the best options to any Amiga user is to add a CD-ROM drive and explore the vast resources of graphic and sound files available. Two recent upgrades to existing CD-ROM software packages have been

introduced and both offer strong features. Asimware Innovations offers an upgrade for existing users of their CD driver called AsimCDFS 2.0 (the FS stands for file system). The biggest news is the addition of *AsimPhoto*, which allows users with a Kodak Photo CD-compatible drive to load pictures and convert them to IFF24 24-bit files. Although currently not supported by many Amiga image-processing programs, Photo CD is going to become more popular on the Amiga platform in the coming year, just as it has taken off on the IBM and Mac market. Most photo developers now support the new format and it's simple to use. Just drop off your roll of 35mm film and in less than a week your pictures come back stored in various resolutions on a CD. We'll cover Photo CD's many options more in

depth in a future Video Slot, but the main thing is *AsimPhoto* makes it easy to bring hi-res 35mm-quality photos into the Amiga desktop. Also, the included *FishMarket* CD of Fred Fish disks has been expanded to include disks up to #880. *AsimTunes* allows advance CD audio playback features such as random, ordered, sequential play, A/B cuts, direct track access, track/disk naming, cataloging, and disc identification. A new preferences editor allows saving configuration options, and full ARexx commands have been implemented. The suggested retail price is \$79; the upgrade from current version is \$35.

Xetec's CDX 1.65 offers many of the same features as well as some new ones. CDX now reads Macintosh CD disks using the HFS file system. Photo CD support is now standard with a PCDtoIFF conversion utility. Also added is support for associated files, CDXL, and 2.0/3.0 Workbench. New drivers have been added for better CDTV emulation. A software version of a CD remote control comes standard as well as a CD install program which moves all the necessary controller information and drivers onto your boot floppy or hard drive. To upgrade, contact Xetec directly if you have a previous version of the CDX software. Both programs allow many similar features and both have been tested on quite a few CD drives. If you have a Photo CD-compatible drive, then it is definitely worth it to upgrade to either of these CD file system packages since previous versions of both did not support Kodak's photo file system.

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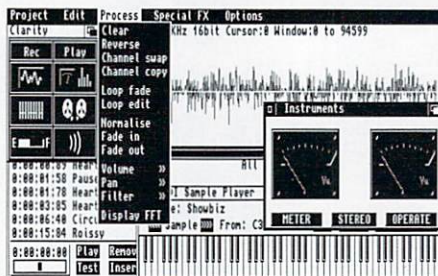
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Listing Five

Listing 5. "Print Num Accts" Global Routine

```
1 *****
2 * Global routine "Print Num Accts"
3   Let CurrentDocument = DocumentName
4   WorkWithDocument "Accounts"
5   SetPrintFont "topaz",9
6   SetPen 1,0
7   SetPrintStyle BOLD,2,3
8   SetDrawMode JAM2
9   PrintText " ",268,18 ;clear the previous number
10  SetDrawMode JAM1
11  PrintText FormatValue(LinesInDocument-1,"000"),268,18
12  WorkWithDocument CurrentDocument
13 * End of routine "Print Num Accts"
14 *****
```

Listing Six

Listing 6. "Print Num Cats" Global Routine

```
1 *****
2 * Global routine "Print Num Cats"
3   Let CurrentDocument = DocumentName
4   WorkWithDocument "Categories"
5   SetPrintFont "topaz",9
6   SetPrintStyle BOLD,2,3
7   SetPen 1,0
8   SetDrawMode JAM1
9   PrintText " ",595,18
10  SetDrawMode JAM2
11  PrintText FormatValue(LinesInDocument-1,"000"),595,18
12  WorkWithDocument CurrentDocument
13 * End of routine "Print Num Cats"
14 *****
```

Listing Seven

Listing 7. "Sort the Document" Global Routine

```
1 *****
2 * Global routine "Sort the Document"
3   Nop ;The current document should be set in calling routine
4   If LinesInDocument > 1
5       SortDocument NOCASE
6       MoveCursorTo STARTOF DOCUMENT
7       Delete LINE
8       MoveCursorTo ENDOF DOCUMENT
9       NewLine
10  EndIf
11 * End of routine "Sort the Document"
12 *****
```

Listing Eight

Listing 8. "Update Categories" Global Routine

```
1 *****
2 * Global routine "Update Categories"
3   Let CurrentDocument = DocumentName
4   Nop ;If "Categories" was changed, update appropriate document
5   If ChangedCategories = TRUE
6       Let NewCategoryDocument =
TextFromDocument("Categories")
7       WorkWithDocument "Categories."||ChosenAccount
8       Clear DOCUMENT
9       Type NewCategoryDocument
10      Let ChangedCategories = FALSE
11  EndIf
12  WorkWithDocument CurrentDocument
13 * End of routine "Update Categories"
14 *****
```

Listing Nine

Listing 9. Interface Information and Event Routines for DataEntry Card in CanDo 2.0

```
1 *****
2 * Deck "CanDo-Part2-Program2"
```

```
3 * Time 18:48:16
4 * Date 06/27/93
5 *****
6
7 *****
8 * Card(s) in deck.
9 * Card "DataEntry"
10 *****
11 * 1 Card(s), 1 were printed.
12 *****
13
14 *****
15 * Natural order of Cards
16 * Card "DataEntry"
17 *****
18
19 *****
20 * Global Routine(s) in deck.
21 * Routine "Show Record" (was not printed)
22 *****
23 * 1 Global routines(s), 0 were printed.
24 *****
25
26 *****
27 * Card "DataEntry"
28   AfterAttachment ; used to be AfterStartup
29   SetPrintFont "ruby",12
30   SetPrintStyle BOLD SHADOW,2,3
31   SetPen 1,0
32   SetDrawMode JAM1
33   PrintText " Name:",119,39
34   PrintText "Address:",124,59
35   PrintText " City:",124,79
36   PrintText " State:",119,99
37   PrintText " Zip:",130,119
38 EndScript
39 Window "UserWindow"
40   Definition
41       Origin 0,0
42       Size 640,200
43       Title "Database Demo"
44       NumberOfColors 4
45       WindowColors 0,1,0 ; Detail, Block,
Background
46       WindowObjects CLOSEBUTTON
47       WindowFlags ACTIVATE SEPARATESCREEN
TOFRONT
48 EndScript
49 OnCloseButton
50   Quit
51 EndScript
52 EndObject
53 TextField ".Name"
54   Definition
55       Origin 214,40
56       Size 221,8
57       Justification LEFT
58       MaxFieldLength 32
59       InitialText ""
60       Border DOUBLEBEVEL,2,1 ; BorderStyle,
MainPen, ExtraPen
61 EndScript
62 OnRelease
63   SetObjectState ".Address",ON
64 EndScript
65 EndObject
66 TextField ".Address"
67   Definition
68       Origin 214,60
69       Size 221,8
70       Justification LEFT
71       MaxFieldLength 32
72       InitialText ""
73       Border DOUBLEBEVEL,2,1 ; BorderStyle,
MainPen, ExtraPen
74 EndScript
75 OnRelease
76   SetObjectState ".City",ON
77 EndScript
78 EndObject
79 TextField ".City"
80   Definition
81       Origin 214,80
82       Size 221,8
83       Justification LEFT
84       MaxFieldLength 32
85       InitialText ""
86       Border DOUBLEBEVEL,2,1 ; BorderStyle,
MainPen, ExtraPen
87 EndScript
88 OnRelease
89   SetObjectState ".State",ON
90 EndScript
91 EndObject
92 TextField ".State"
93   Definition
94       Origin 214,100
95       Size 221,8
96       Justification LEFT
97       MaxFieldLength 32
98       InitialText ""
99       Border DOUBLEBEVEL,2,1 ; BorderStyle,
MainPen, ExtraPen
100 EndScript
101 OnRelease
```



```

102      SetObjectState ".ZipCode",ON
103      EndScript
104      EndObject
105      TextField ".ZipCode"
106      Definition
107          Origin 214,120
108          Size 221,8
109          Justification LEFT
110          MaxFieldLength 32
111          InitialText ""
112          Border DOUBLEBEVEL ,2,1 ; BorderStyle,
MainPen, ExtraPen
113      EndScript
114      OnRelease
115      SetObjectState ".Name",ON
116      EndScript
117      EndObject
118      TextButton "Add"
119      Definition
120          Origin 107,155
121          Font "System",8 ; FontName, PointSize
122          PrintStyle SHADOW ,2,3 ; Style, Pen1, Pen2
123          TextColors 1,0,NORMAL ; PenA, PenB,
DrawMode
124          Text " Add "
125          Border BEVEL ,2,1 ; BorderStyle, MainPen,
ExtraPen
126          Highlight COMPLEMENT
127          ButtonFlags NONE
128      EndScript
129      OnRelease
130      Let Address[CurIndex]=GetDBObjects;store
current entry
131      Let CurIndex=CurIndex+1
132      ;get next index number
133      InsertArrayEntry Address,CurIndex ;insert
new index in array
134      Do "Show Record"
135      EndScript
136      EndObject
137      TextButton "Delete"
138      Definition
139          Origin 177,155
140          Font "System",8 ; FontName, PointSize
141          PrintStyle SHADOW ,2,3 ; Style, Pen1, Pen2
142          TextColors 1,0,NORMAL ; PenA, PenB,
DrawMode
143          Text " Del "
144          Border BEVEL ,2,1 ; BorderStyle, MainPen,
ExtraPen
145          Highlight COMPLEMENT
146          ButtonFlags NONE
147      EndScript
148      OnRelease
149      DeleteArrayEntry Address,CurIndex
;delete record
150      If VarType(Address[CurIndex])="Nothing"
;see if last
151      Let
CurIndex=LastArrayIndex(Address) ;find new last
152      EndIf
153      Do "Show Record"
154      EndScript
155      EndObject
156      TextButton "Prev"
157      Definition
158          Origin 247,155
159          Font "System",8 ; FontName, PointSize
160          PrintStyle SHADOW ,2,3 ; Style, Pen1, Pen2
161          TextColors 1,0,NORMAL ; PenA, PenB,
DrawMode
162          Text " Prev "
163          Border BEVEL ,2,1 ; BorderStyle, MainPen,
ExtraPen
164          Highlight COMPLEMENT
165          ButtonFlags NONE
166      EndScript
167      OnRelease
168          Let Address[CurIndex]=GetDBObjects
;save current record
169      Let
CurIndex=PreviousArrayIndex(Address,CurIndex) ;get previous record
170      If Not SearchFound
;if no previous record
171      Let
CurIndex=LastArrayIndex(Address) ;go to last record
172      EndIf
173      Do "Show Record"
174      EndScript
175      EndObject
176      TextButton "Next"
177      Definition
178          Origin 327,155
179          Font "System",8 ; FontName, PointSize
180          PrintStyle SHADOW ,2,3 ; Style, Pen1, Pen2
181          TextColors 1,0,NORMAL ; PenA, PenB,
DrawMode
182          Text " Next "
183          Border BEVEL ,2,1 ; BorderStyle, MainPen,
ExtraPen
184          Highlight COMPLEMENT
185          ButtonFlags NONE
186      EndScript
187      OnRelease
188          Let Address[CurIndex]=GetDBObjects

```

```

;save current record
188      Let
CurIndex=NextArrayIndex(Address,CurIndex) ;get next record
189      If Not SearchFound
;if no next record
190      Let
CurIndex=FirstArrayIndex(Address) ;go to first record
191      EndIf
192      Do "Show Record"
193      EndScript
194      EndObject
195      TextButton "Load"
196      Definition
197          Origin 407,155
198          Font "System",8 ; FontName, PointSize
199          PrintStyle SHADOW ,2,3 ; Style, Pen1, Pen2
200          TextColors 1,0,NORMAL ; PenA, PenB,
DrawMode
201          Text " Load "
202          Border BEVEL ,2,1 ; BorderStyle, MainPen,
ExtraPen
203          Highlight COMPLEMENT
204          ButtonFlags NONE
205      EndScript
206      OnRelease
207          Dispose Address
;delete current
208      Let FN=AskForFileName("", "Load an Address
File") ;get a filename
209      If Exists(FN)
;if file exists
210      Let Address=LoadVariable(FN)
;load it
211      EndIf
212      Let CurIndex=FirstArrayIndex(Address)
;go to first record
213      Do "Show Record"
214      EndScript
215      EndObject
216      TextButton "Save"
217      Definition
218          Origin 487,155
219          Font "System",8 ; FontName, PointSize
220          PrintStyle SHADOW ,2,3 ; Style, Pen1, Pen2
221          TextColors 1,0,NORMAL ; PenA, PenB,
DrawMode
222          Text " Save "
223          Border BEVEL ,2,1 ; BorderStyle, MainPen,
ExtraPen
224          Highlight COMPLEMENT
225          ButtonFlags NONE
226      EndScript
227      OnRelease
228          Let Address[CurIndex]=GetDBObjects
;store current record
229          Let FN=AskForFileName("", "Save an Address
File") ;get a filename
230          SaveVariable Address,FN
;save it
231      EndScript
232      EndObject
233      * End of Card "DataEntry"
234      *****

```

Listing 10

Listing 10. "Show Record" Global Routine

```

1 *****
2 * Global routine "Show Record"
3   SetDBObjects Address[CurIndex]
;show the record
4   SetWindowTitle "Database Demo: Record #"||CurIndex ;show
record number
5   SetObjectState ".Name",ON
;put cursor in Name Field
6 * End of routine "Show Record"
7 *****

```

•AC•

Please Write to:
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c/o Amazing Computing
P.O. Box 2140
Fall River, MA 02722-2140

—Bars&Pipes *continued from page 42*

either. This version of Bars&Pipes Professional will play only standard opcode 5 animations.

There doesn't appear to be a way to clear an individual entry in any of the Multimedia Tool windows. You can clear the whole list or live with a bum entry. While not exactly a bug, it is certainly something to be fixed.

We tried to hook up the Toaster on a separate machine as described in manual for running the Toaster and B&P Pro 2.0 at the same time. The instructions were not as detailed as they should be. We tried a null modem cable between the serial ports, using the GVP serial device on the Toaster machine without success. More detailed instructions would be helpful.

If wishes were horses...

I've always held the products put out by Blue Ribbon in high regard. This is not to say that I don't have a wish list. Many aspects of the update could have been handled better for the user. The manual received a complete rewrite. Those of us who are upgrading from 1.0e will have to wade through the complete docs to see what's new. It's times like these that make me wish for addendums or at least some direction on where to find the new features. Thumbing through both manuals and marking passages with my highlighter gets to be a mind numbing but necessary task.

Some things were changed that would have been better left alone. You can no longer move a track to the top or bottom of the track list by double-clicking on it. I found the Duplicator function to be equally useful in both the graphics and the list editing windows. Why remove it from the List Editor? Being able to click and drag the tempo settings is good, but I miss being able to change tempos in large increments by clicking above or below the tempo display. The Lock To Default Note feature has been changed to maintain any offsets from strict quantizing that may be in your Track. I've always used the Lock feature as a kind of Snap To Grid, a way to correct the errant note or two. Now I have to use the List Editor or turn Lock off. How about a true Snap To Grid feature for us lazy musicians?

I'd still like to have all the flags available in the Song Construction window as well as the Tracks window. You get a better overview of your piece in the larger window, which helps in selecting and moving your flags. I'd also like a way to set and select flag positions from the Amiga keyboard. And how about letting the non-artists in the crowd import IFF files as starting points for creating Tool icons?

Does the lack of real time entry in the Pattern Tool bother anyone else besides me? If you want to create a pattern on the fly, you're out of luck. You'll have to do it in a track, then cut and paste it to the Pattern Tool via the Clipboard. The Pattern Tool would be more effective as a drum machine simulator if you could assign drum notes to, say, keys on the numeric keypad. I've always wished for some way to do quick and dirty pattern-based recording in Bars&Pipes, as I can in Harmoni or Music-X. I'm not sure the Pattern Tool is the answer.

B&P Pro 2.0 still displays control changes in the graphic editor window in a mutually exclusive manner. That is, you can see only one control change at a time. This makes better sense that trying to display three or four control change curves on top of one another, as stated in the manual. Some programs, however, take a different approach and open separate windows for each of the major control change numbers. For example, Pitch Bend could have its own window, ditto for Modulation, MIDI Volume, etc. Another possibility would be to display a limited number of different control change graphs together but in different colors. The overlapping graphs could be viewed together and yet distinguished from each other. This would give you immediate access to more of your data.

I like seeing the rest of the Group in a graphic editing window.

It would be even nicer if each member could be assigned its own color. This would make it easier to see which Track was performing which part. As it is now, all you can be sure of is that some Group member is performing one of the gray notes.

Being able to Send MIDI Defaults is a nice touch, but why stop there? Make it a user editable menu item, savable with the song file with a wider range of setting options available. This would eliminate a lot of tools in my pipelines whose sole purpose is to set up B&P Pro 2.0 to my liking.

Have you ever grabbed a set of measures in the song construction window only to discover you've grabbed too many measures? Maybe your mouse slipped and you've gotten the right number of measures, but from the wrong Track. An Abort feature would sure come in handy. Ditto for moving things in the Graphic Editor.

The Drag With Pencil and Lengthen With Pencil options are good ideas. We need a way to switch between them on the fly. Maybe holding the Alt key could be used to toggle between the two. Having to re-select from the menu is worse than clicking on the Hand and Wand buttons.

While the changes made to the Print facility are appreciated, its usefulness is compromised by an inability to mark sections for repeats, first and second endings, D.S. al Coda, etc. These basics of notation are so essential that they must be hell to write into a program. I find myself scratching out lead sheets, same as ever.

Conclusion

B&P Pro 2.0 is more than a simple upgrade. It almost qualifies and a new program, a MIDI Toaster if you will. The fact that all the Tools and Accessories included don't add to the base price is an extraordinary value and a measure of the commitment Blue Ribbon has made to the Amiga platform. Media Madness could have been marketed by itself as a stand-alone product. With the appropriate supported equipment it's very easy to be extremely powerful. I've always known it was cool, but the experience of multimedia was a revelation to me, being a MIDIot not a vidiot. While B&P Pro 2.0 would not replace a logical, interactive type of multimedia program, it would certainly hold its own as a designer of high level pre-recorded multimedia sequences intended for playback-only presentations.

If you have any interest in multimedia and currently own Bars&Pipes Professional, upgrade to 2.0. If you all you want to do is MIDI, you should still get B&P Pro 2.0. There isn't anything more comprehensive for MIDI in the Amiga marketplace today, and no easier entry into the world of multimedia for the professional musician.

Special thanks to Jon Tindall of MetroGraf, a 3-D animation house in Lake Orion, Michigan, for his help in testing the Media Madness features of B&P Pro 2.0.

•AC•

B&P Pro 2.0
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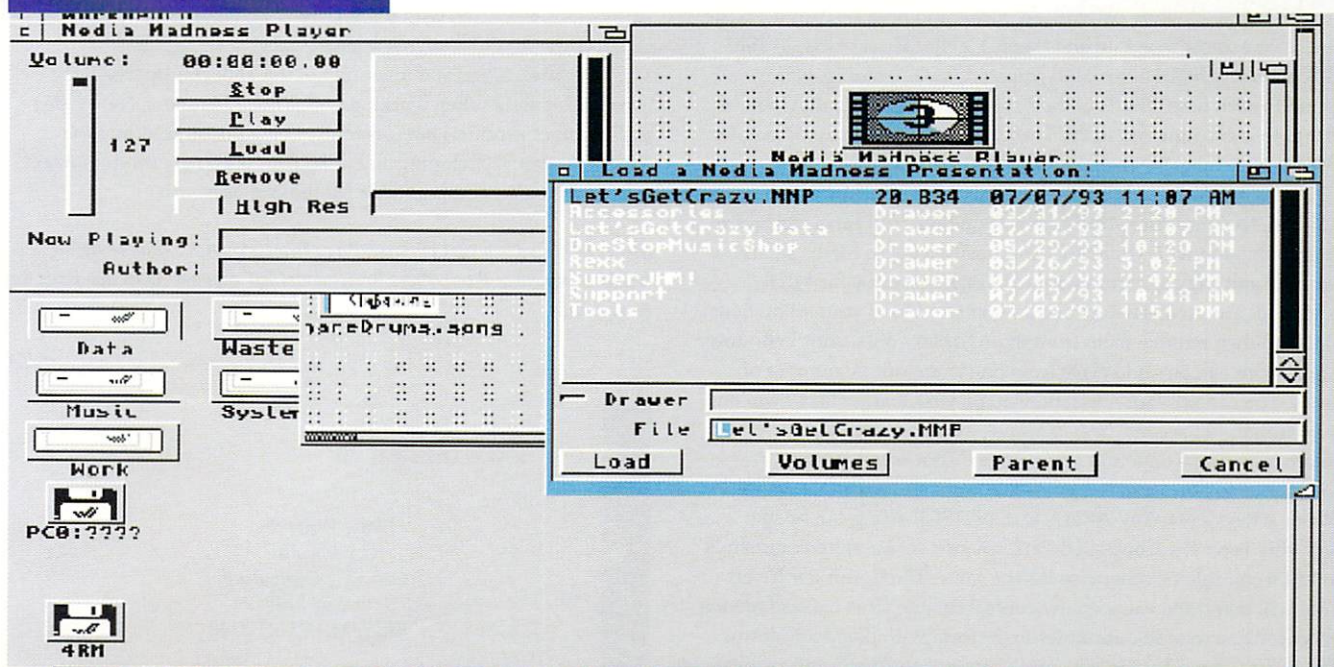
What Does It Do for Bars&Pipes Professional 2.0?

by Rick Manasa

Media Madness is responsible for much of the noise surrounding the release of *Bars&Pipes Professional 2.0*. Simply put, *Media Madness* allows you to coordinate the running of different media, be they slides, Toaster transitions, sound effects, etc., with your music tracks by assigning each event to a particular MIDI note number. Each Track of the *Media Madness* window ends with one Tool designed to work with a particular product or media. Multimedia events are displayed by name in each Track's time line. Be sure to check out the "Media Madness" article, *AC v8.5*, for an in-depth look, by members of the programming team at Blue Ribbon, at how *Media Madness* works.

The *Media Madness* window looks and operates like a cross between the Tracks and graphic editing windows. You can perform pipeline operations and editing functions from the same window. There are some differences between the main Tracks and editing windows, however. Most *Media Madness* Tools are output Tools only. Most times that you drop a *Media Madness* Tool on the Pipeline it will replace the MIDI Out Tool. All input into the *Media Madness* window comes from *Bars&Pipes Professional 2.0*, the editing functions, or the *Punching Bag* Tool. Most *Media Madness* Tools have settings that can be saved and loaded independent of the Tool itself. The Title Bar displays the time of the most recently grabbed object in music or SMPTE time. The Command Buttons are the same with a few features specific to *Media Madness*. The Magnifying Glass lets you enter note number, name and velocity, and start and stop times in music and SMPTE formats. All the other Buttons create or modify Tracks and Hit Events.

A new feature called Hit List Translation tells *Bars&Pipes Professional 2.0* and the programs accessed by the *Media Madness* Tools what to do and when to do it. Through Hit List



Translation, each event is assigned to a music note. You can also add text labels for each note. For example, you might assign a barking dog sound effect to the music note D#4, and then label the event "woof." The notes determine when the event will occur and are still visible and editable as notes in the editing window. This has its pro's and con's.

Even though Hit Lists are a special type of note entry, they can still be processed in the same ways as regular music notes in Bars&Pipes Professional 2.0. This means most Tools in the Toolpad can work their magic on Hit List entries. This can lead to some wildly creative, unpredictable, or even unwanted results. If you were to modulate our sound effects Track up a half step with the Modulator Tool, for example, our barking dog notes (D#4) would all be moved up to whatever we'd assigned to the E4 note, maybe a hooting owl, or a door slam. Toolizing a Media Madness Track with a more complex Tool could wreak havoc on your carefully designed multimedia presentation.

Media Madness creations can be saved as Bars&Pipes Professional 2.0 files or in the special Media Madness format. The .MMP format saves the main file and all support files necessary for playback using the included Media Madness Player. This freely distributable player is similar to the MIDI file player included with SuperJAM! and serves a similar function. The Media Madness Player is a transparent, deceptively simple appearing file player that coordinates and performs a lot of different media files and formats from the same environment. You can create your work on your home system and take the necessary files for playback on any other properly configured Amiga. The Media Madness Player lets you load, save, and remove .MMP files and adjust the playback volume. You can also select which resolution to play back your work—standard resolution of 60 parts per second or hi-res using 512 parts per second. The standard resolution uses vertical blanking interrupts while the higher resolution mode uses audio interrupts to control the timing. Best advice is to try them both with any given piece to see what best suits your needs.

The introduction of Media Madness opened the door for a whole new type of Tool, the Multimedia Tool. Most are format specific and many are product specific. Multimedia Tools are positioned, edited, etc., the same way as the music Tools, though many have much more extensive controls and options than the basic music Tool. Most maintain and display a Hit List Translation Table. This is a list of MIDI notes with commands you enter that correspond to each note. The Tool then executes the command whenever that note is encountered in the Track. Most Tools allow you to enter a descriptive label for each note and command as well.

So what do these Multimedia Tools do specifically? The ANIMa! Tool performs ANIM animation files. You can synchronize your animation with your MIDI composition in the Media Madness window and trigger it from within a Track or from your MIDI keyboard. The ANIMa! Tool allows you to preload your animations, play and then remove them from the ANIMa! Tool Control window. Animations can be set to cycle from one to an infinite number of times. You can set your animations to play back anywhere from one to 60 frames per second. You can save, load and clear a set of commands. The Command Performance Tool assigns ARexx commands to notes and lets you send text commands to a device, file, or ARexx port. Any ARexx, text, or ASCII string can be sent with this Tool. The Controlled Performance Tool assigns commands to MIDI controllers; otherwise it's the same. The Controller Invert Tool will invert the value of any control change. This makes fade-ins synchronized to fade-outs easier to perform with the Mix Maestro. The FreezeFrame Tool freezes and unfreezes the picture-in-picture

created by the GVP IV-24 card. You can create your own strobe effects, locking the freezing and unfreezing to your music. The G-LOCKenspiel Tool controls the G-LOCK genlock from GVP. Any of the many filtering and mixing effects possible with the G-LOCK can now be controlled from within Bars&Pipes Professional 2.0. The Last Slide Show will display any IFF image on command. You can also affect the brightness and color balance in real time using the pitch bend and modulation controls on your MIDI keyboard. You can even drag The Last Slide Show Tool into the metronome window and flash pictures as a visual metronome! The MediaPhile Controller Tool will issue all the necessary commands to control tape transport functions through the MediaPhile Desktop Video System. The MM Recorder Tool is used to create files for the Media Madness Player. This Tool is usually activated and placed in each Track automatically by the Media Madness window. The POD People Tool controls the Panasonic Optical Laser Disk Player. The Punching Bag Tool lets you enter Media Madness events in real time.

The SamplePhone Tool plays back one-shot 8-bit IFF sound files. The Scala Tool loads and performs scripts created in *Scala*. The SunRize Out Tool assigns samples created with the SunRize AD1012 and AD516 boards to MIDI note numbers. These are then played out the SunRize cards either until a MIDI Note Off command is received or until the sample has played its full length. Both boards respond to velocity and volume changes and the AD516 understands panning commands as well. You can use the Mix Maestro to change these parameters dynamically from within Bars&Pipes Professional 2.0. The SuperGen Tool is a little different from most of the Media Madness Tools. It sends out MIDI control change commands to set the positions of the faders on the SuperGen. The Mix Maestro can be used again from within Bars&Pipes Professional 2.0 to mix the faders dynamically during a piece of music.

The Toasty Tool assigns Video Toaster commands to MIDI note numbers. Insert these numbers into a Track to control wipes, fades, and other Toaster transitions and effects. You can control a Toaster connected to the same Amiga running Bars&Pipes Professional 2.0 or to a remote setup. Each MIDI note can have up to six Toaster commands attached to it. This allows you to set up mini scripts for executing a common string of commands with one Media Madness command. You can load Projects created with the Toaster as well as ARexx scripts written with the Toasty Tool. Finally, the Yak Tool sends output to the Amiga speech device.

The advantages and ingenuity of the Tool concept really become apparent when working with Media Madness. New video and graphics products are constantly being introduced into the Amiga market. Developing a new Tool for each new product won't change the basic learning mode for the end user.

Media Madness is a part of Bars&Pipes Professional 2.0. Please see the complete review of Bars&Pipes Professional 2.0 on page 37 in this issue for more details.

•AC•

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DIVERSIONS

Desert Strike

Rob Hays

The news is grim. A Middle-East madman has developed nuclear weapons, and the President has decided on a pre-emptive air strike. A small air strike. One Apache gunship. And guess who the lucky pilot is.

This is the premise behind what is one of the best arcade shoot-em-ups to come along in quite a while. *Desert Strike*, Return to the Gulf, from Electronic Arts, is so well done that even the inevitable imperfections don't detract too much.

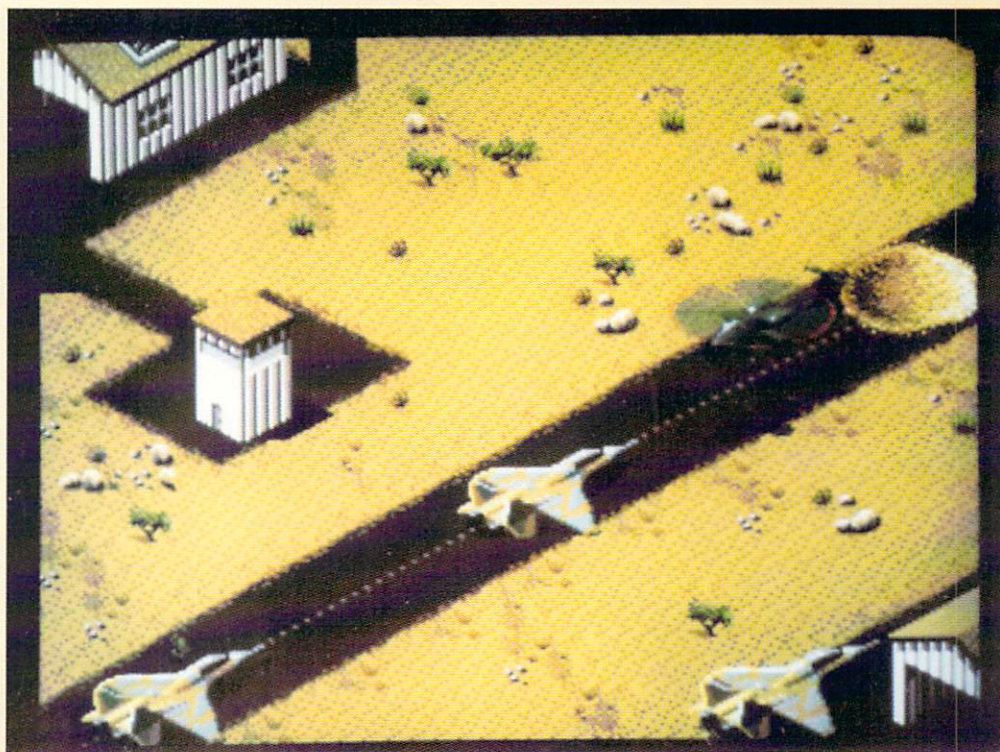
As the pilot of the Apache, you are assigned a series of campaigns, each with up to eight missions. These must all be accomplished in the proper order to ensure success. And in your spare time you need to rescue a lot of stranded service personnel that are running around the desert or being held captive.

The game begins with a rather long introduction that can be bypassed, although you should watch it at least once for the gorgeous art work. You will also want to have some speakers or headphones hooked up as the game is full of digitized sounds, and even the musical interludes are above usual game standards.

After all of the intro is out of the way, the first step is to choose a copilot. This can be critical to your success, since he or she controls the winch which rescues MIAs and resupplies your gunship with ammo and fuel, and also determines the accuracy of your weapons.

The desert landscape that you fly over in isometric perspective is anything but static. Enemy soldiers armed with everything from rifles to shoulder-launched SAMs will turn to follow your movements, anti-aircraft guns and missiles track you, jeeps drive down the roads, and MIAs jump and wave their arms, yelling "Over Here!". Besides the obvious targets such as airfields and power stations, it pays to fly around shooting everything in sight. Hidden in some buildings and camps are extra fuel and ammo, as well as bonus lives.

Picking up the MIAs and returning them to a beachside landing zone, where the Stars and Stripes wave in the breeze, will restore your chopper's armor. This is, of course, critical to your survival, since every hit by an enemy weapon lowers the current armor rating. Finding the MIAs as well as the fuel and ammunition depots is made easier by pushing F10. This brings up a map display which you can cycle to show the locations of items of interest such as fuel. This screen also shows your current Apache status; fuel



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and armor ratings, ammunition load, and number of lives left. The map display can also show which targets have been destroyed, and which still remain.

While flying is not a major component of this game, you soon learn to take advantage of available cover. Keep close to buildings or mountains as you approach anti-aircraft positions. Pop out from behind the cover at the last second, fire the appropriate weapon, then duck back to safety in case you miss. Your Apache is equipped with three weapons systems; Hydra and Hellfire missiles, and a machine gun.

Desert Strike is supplied on three disks, which can be duplicated from the Workbench. They do use custom disk loading routines that will set off a virus checker if you have one running. One of the irritations of this game is that it requires all three disks to get started, and one of them twice. It cannot be installed on a hard disk, but will use an external drive if available. When the inevitable

happens and you have run out of lives, a requester appears giving you the option of restarting the current campaign. If you so choose, the game returns you to the beginning without further disk activity. Game control is your choice of joystick, mouse, or keyboard. In true arcade fashion, there is no save game ability. However, if you complete a campaign, you are given a password. Write this down, and type it in when the game begins to return to the start of the next campaign. Desert Strike uses the Amiga's 64 color EHB graphic mode, so some of the earliest A1000's may have problems.

Desert Strike is very close to perfect, with the biggest strike against it caused by lack of hard disk support.

Desert Strike

Electronic Arts

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San Mateo, CA 94404

(800) 245-4525

Inquiry #235



Desert Strike has you destroying air bases and ammo dumps as well as rescuing MIAs.

War in the Gulf

Rob Hays

Dateline Kuwait: Iraqi Republican Guard tank units stormed over the border, overrunning the disputed oil fields and several key installations. The Emir of Kuwait has asked for assistance in defending his country from invasion, and the United States has responded.

No, the above is not from the start of the 1990-91 Gulf War, but rather from the introduction to Empire's War in the Gulf. The year is 1995, and Team Yankee, now renamed Team Kuwait, is to spearhead the effort to destroy the invaders.

Like its predecessors, Team Yankee and Pacific Islands, War in the Gulf places you in control of four mechanized platoons. Each platoon consists of four vehicles, which means sixteen different tanks and other vehicles to keep track of in addition to navigation and the Iraqis. This would quickly become an impossible task if it were not for the four-way split screen available. In this mode you can navigate and fight all four units simultaneously. You can also instantly switch to a full screen representation of any one unit, which gives you greater control flexibility than is available in quadrant mode.

You begin the game with a budget of 55 million dollars, provided by the Emir. You have the option to resupply your units at the start of each campaign. Buy more ammo, repair or replace damaged vehicles, even pay for some R&R for your troops to help their morale. For victories and destroying key installations, the Emir will reward you with further credit. Cause too much collateral damage and he will withdraw credit to cover the damages your team caused. Otherwise the money is yours to spend as you see fit. Equip your platoons with whatever combination of vehicles and weapons you think will take care of the job at hand.

Vehicles available to you are the M-1 Main Battle Tank, the M-113 Armored Personnel Carrier, the M-2 Bradley Fighting Vehicle, and the M-901 Improved TOW Vehicle. This last is an M-113 modified with long-range anti-tank missiles. The Iraqis are equipped with the latest comparable vehicles from the former Soviet Union.

Compared to the original Team Yankee, these opponents are much tougher and smarter. Even on the beginning level you will find the Republican Guard units tough to beat. Just to make things a little harder, the Emir has placed certain restrictions on your operations. In one scenario, for instance, if you hit any of the buildings in the town, you automatically lose.

This is another area where War in the Gulf surpasses the original. The level of detail in the surroundings is a lot greater. The

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towns and villages have various types of buildings in them, each with their own shape. As you travel through the desert, you will even see oil wells burning. Also improved is the strategic component of the game. You have a greater latitude in your starting positions, which can make all the difference in the outcome of the scenario.

War in the Gulf uses the mouse for control, although there are some keyboard shortcuts available. Games can be paused at any point to review your situation and strategy, but individual scenarios cannot be saved, only your overall position in the war.

The game is supplied on two disks, with a map of the area in dispute, and a 68 page manual. This includes information on the scenarios and details of game operations, as well as vehicle identification charts needed for the copy protection questions. The game requires 512k of ram and Kickstart 1.2 or higher. I had no problems running it under 3.0 on an A1200,

but owners with 68030 or higher processors will need to obtain a copy of the freely distributable program Degradar by Chris Hames. This program allows users to selectively turn off advanced features of newer processors to maintain compatibility with software that conflicts with these features. For War in the Gulf, the key seems to be to turn on the privilege error trap. Otherwise the program crashes.

I have to hand it to Empire. They found a great way to represent the complexities of modern tank warfare, refining it through two sequels. In what world hot spot will Team Kuwait next turn up? Bosnia perhaps?

War in the Gulf
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(416) 731-4175
Inquiry #236



Zool (AGA version)

by Henning Vahlenkamp

Nintendo has Super Mario, Genesis has Sonic the Hedgehog, and now the Amiga has a mascot too—a delightful little creature called Zool. Zool, the star of a sizzling new platform arcade game by Gremlin Graphics, looks like a cross between a ninja warrior and an ant. But Gremlin prefers to call him a “ninja of the ‘Nth’ dimension” or “an interstellar cosmos dweller.”

As chronicled by the comic strip in the manual, Zool, while returning home from “ninja-ing,” ran across a peculiar vortex in space. His ship was sucked in, and the next thing he knew, he was in an alien world. Whoever or whatever brought him here did so to challenge him to escape six worlds.

Zool’s six worlds aren’t just the usual run-of-the-mill playgrounds for hordes of ugly beasts—e.g. Future World, Jungle World, etc. Instead, they’re wonderfully surrealistic scenes that are just plain fun to explore. Each features three levels and has its own motif; even the enemies are quite appropriate to their worlds. There’s the Sweet World, the Music World, the Fruit World, the Tool World, the Toy World, and the Fairground World. You’ll experience bizarre things like dodging pit-spewing pomegranates, fighting off a giant killer drill, and flying into the air on a current of musical notes. You can even have Zool play himself in a mini obstacle arcade game.

All the while, the primary objective remains the same. In each level of each world you must collect enough bonuses—any objects that aren’t nailed down—and make it to the end within a time limit. Along the way you’ll find various checkpoints. Hitting one makes the game remember to restart your character there if (more like *when*) you lose a life. Zool can

absorb at least three shots before a life is spent.

Since Zool’s mission is quite an undertaking, you’ll probably want to use the game settings menu available from the title screen to tailor it to your liking. The menu allows you select the difficulty/percentage of available bonuses required (easy 25%, normal 50%, or hard 75%), toggle inertia on or off to control how fast Zool starts and stops moving, and select Zool’s speed (normal or fast). Since game saves are impossible, you’ll appreciate the ability to choose up to five “continue game” options which reset your six default lives when they’re used up. So a maximum of 30 lives are possible. Plus, you can select either sound effects for the game or one of four types of music: rock, green (what?), rave, or funk.

If none of the above options are enough, you could try Zool’s secret cheat mode. On the title screen, which prompts you to press fire, type the word GOLDFISH, causing a quick flash. On that same screen, you can now press F1 to F6 to choose a starting world and 1 to 3 to choose a starting level in that world, then hit fire to begin. While playing the game, pressing 1 makes you invincible, pressing 2 advances you to the next level, and pressing 3 advances you to the next world.

Being an AGA-specific game, Zool won’t work on anything except an A1200 or A4000, although there’s also a non-AGA version. While Zool has been enhanced for AGA, the enhancement isn’t as dramatic as you might expect. On the plus side, there are nice three-layer parallax scrolling backgrounds, although I don’t understand why the non-AGA version couldn’t have the same feature, I’ve seen it in other non-AGA games. Plus, the graphics are

among the fastest of any Amiga games yet, thanks to AGA's lightning speed. On the minus side, the AGA version doesn't seem to use any more than the usual 32 colors during play on its lo-res screen. The only 256-color screen I could find is the full-screen view of Zool in the title sequence.

In defense of Zool, I should add that it's one of the first AGA games. Since the AGA chip set is new, I suspect that it will take a while before game developers fully understand how to make the most of it. It was also a while after the release of the Amiga 1000 in 1985 before many games took full advantage of it. Besides, Commodore has been slow in making detailed information about the AGA registers available, perhaps to discourage programmers from "hitting the metal" instead of using the operating system. In any case, 256-color games had better be coming to the Amiga soon before the market erodes too much further from the IBM PC onslaught.

Even though the game is only 32-color, it's still a superior technical achievement. The bright, cheerful graphics are delightfully cartoonish. The catchy music and numerous sound effects are absolutely outstanding. And controlling Zool is almost effortless.

My first of two complaints concerns Zool's PAL screen mode; it's apparently not available in

NTSC. You'll discover that you can't see the very bottom of the screen, a view that isn't absolutely necessary to the game anyway. Selecting PAL mode from the Early Startup Control menu doesn't cure this problem. The only way I could get my A1200 to run Zool in PAL was with *Degrader 1.30*, Chris Hames' handy PD program.

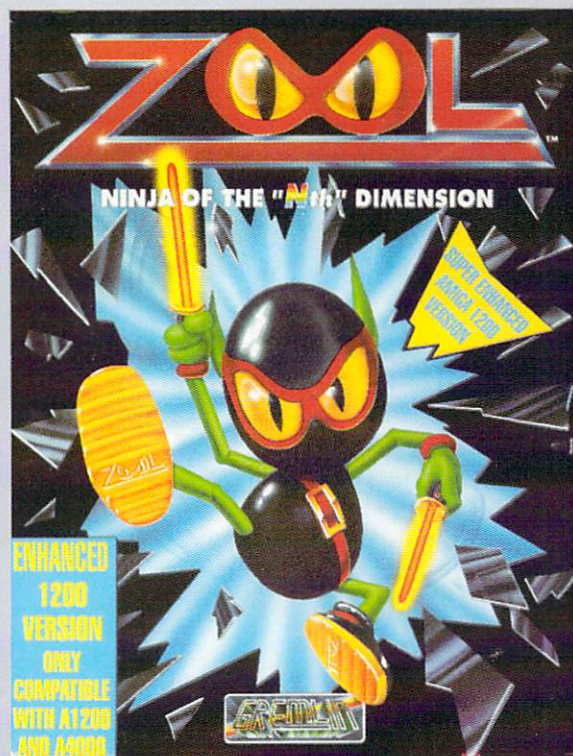
The second complaint is the usual one about copy protection. You're in for a double dose, as both game disks are protected and you must match a picture on a code wheel the first time you load the game. It's about time to drop disk protection and make hard disk installation a standard feature, since the AGA machines, the future of the Amiga, nearly require hard disks.

A huge 23" x 33" full-color poster and Zool stickers included in the attractive packaging were almost enough to make me forget these complaints. The game manual, appearing large because it's written in four languages, tells you everything you need to know about how to play.

In the end, Zool is destined to become a classic like *Lemmings*, making it nothing short of a must-have. There's a lot of fun packed into Zool's six worlds, especially for children. If you've been looking for something on the Amiga to beat Sonic the Hedgehog at its own game, this is it. By the way, rumor

has it that Zool 2 is in development; I can hardly wait.

Zool (AGA version)
Gremlin Graphics Software
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 2-4 Carver Street
 Sheffield S1 4FS, England
 tel 0742 753423
 Inquiry #237



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```

WHEN command = 'draft' THEN
DO
  IF help.bool = 1 THEN
  DO
    CALL help.txt
  END
  ELSE
  DO
    proof = 0
    CALL SetGadget(MANUALHOST,'draft',on)
    CALL SetGadget(MANUALHOST,'proof',off)
    CALL SetGadget(MANUALHOST,'final',off)
  END
END

WHEN command = 'proof' THEN
DO
  IF help.bool = 1 THEN
  DO
    CALL help.txt
  END
  ELSE
  DO
    proof = 1
    CALL SetGadget(MANUALHOST,'proof',on)
    CALL SetGadget(MANUALHOST,'draft',off)
    CALL SetGadget(MANUALHOST,'final',off)
  END
END

WHEN command = 'final' THEN
DO
  IF help.bool = 1 THEN
  DO
    CALL help.txt
  END
  ELSE
  DO
    proof = 2
    CALL SetGadget(MANUALHOST,'draft',off)
    CALL SetGadget(MANUALHOST,'proof',off)
    CALL SetGadget(MANUALHOST,'final',on)
  END
END

WHEN command = 'print' THEN
DO
  IF help.bool = 1 THEN
  DO
    CALL help.txt
  END
  ELSE
  DO
    CALL timer_setup

    IF path.bool = 0 THEN
    DO
      text = "Do you wish to download fonts?"
      text = text||"\This can add a considerable"
      text = text||"\amount of time!"
      fonts = REQUEST(350,150,text,,"Okay","No")
      IF fonts = "OKAY" THEN fntdwn = "1"
      IF fonts = "" THEN fntdwn = 0
    END
    IF path.bool = 1 THEN
    DO
      cancel = "Abort"
      okay = "Continue"
      text = "This Genie does not download"
      text = text||"\fonts. If you haven't"
      text = text||"\allready done so, abort now"
      text = text||"\and download your fonts"
      text = text||"\before proceeding."
      printit = REQUEST(350,120,text,.,okay,cancel)
      IF printit = "" THEN CALL abort
    END
    IF format.bool = 1 THEN
    DO
      IF OK.bool = 1 THEN
      DO
        CALL perfectfront
      END
      ELSE
      DO
        CALL notok
      END
    END
    IF format.bool = 2 THEN
    DO
      IF OK.bool = 1 THEN
      DO
        CALL saddlefront
        CALL outahere
      END
      ELSE
      DO
        CALL notok
      END
    END
    IF format.bool = 3 THEN
    DO
      IF OK.bool = 1 THEN

```

```

DO
  CALL saddlefront
  CALL outahere
END
ELSE
DO
  CALL notok
END
END

IF format.bool = 4 THEN
DO
  IF OK.bool = 1 THEN
  DO
    CALL saddlefront
    CALL outahere
  END
  ELSE
  DO
    CALL notok
  END
END
END

END

WHEN command = 'black' THEN
DO
  IF help.bool = 1 THEN
  DO
    CALL help.txt
  END
  ELSE
  DO
    pmode = 1
    CALL SetGadget(MANUALHOST,'kblack',off)
    CALL SetGadget(MANUALHOST,'black',on)
  END
END

WHEN command = 'kblack' THEN
DO
  IF help.bool = 1 THEN
  DO
    CALL help.txt
  END
  ELSE
  DO
    pmode = 4
    CALL SetGadget(MANUALHOST,'black',off)
    CALL SetGadget(MANUALHOST,'kblack',on)
  END
END

WHEN command = "help" THEN
DO
  call help
END

WHEN command = 'quit' THEN CALL abort

OTHERWISE NOP
END

END
EXIT

/* The program continues from here */

```

Listing Two

```

/*****
/*
/*                               Main GUI Made Here
/*
/*
*****/

hostwindow:

testport = openport(MANUALPORT)
IF testport = 0 THEN
DO
  CALL postmsg(350,10,"Couldn't open MANUALPORT, am exiting.")
  CALL DELAY(80)
  CALL postmsg()
  EXIT 5
END

ADDRESS AREXX ""CALL createhost(MANUALHOST,MANUALPORT)""

DO i = 1 to 6
  IF -SHOWLIST('p',MANUALHOST) THEN CALL DELAY(60)
ELSE LEAVE i
END

IF i = 7 & -SHOWLIST('p',MANUALHOST) THEN
DO
  CALL postmsg(350,10,"Couldn't open HOST, am exiting")
  CALL DELAY(80)
  CALL postmsg()
  EXIT 5
END

```



```

CALL makewindow() /* Make window and install gadgets */

RETURN

/*****
/* Window & Gadgets Follow */
*****/

makewindow:

idcmp = 'CLOSEWINDOW+GADGETUP+MENUPICK'
flags = 'WINDOWCLOSE+WINDOWDRAG+WINDOWDEPTH+ACTIVATE'

title = "The Mother of all Genies * * * * ©1993 Enosis C.S. - "
title = title||"All Rights Reserved."
CALL OpenWindow(MANUALHOST,0,0,0,0,idcmp,flags,title)

/*****
/*
/* Blank Box
/*
*****/

path.bool = 1
bailout.bool = 0
print.bool = 1
fntdwn = 0
side.bool = 0
pmode = 4
proof = 1
filepath = ''
prpath = "par:"
tpath = prpath
copies = 1
start = 1
last = PPM_DocLastPage()
endd = last
format.bool = 1
media.bool = 1
sig.bool = 0
allsigs.bool = 1
onesig.bool = 0
help.bool = 0
sigstat = "0 0 0 0 8.5 11 8.5 5.5 0"
PARSE var sigstat psm psn pss cropstat pgx pgy koff yoff1 yoff2 .

picture = "jrpub:JrPub.4clr"
CALL IFFimage(MANUALHOST,picture,44,20)

CALL SetFont(MANUALHOST,'topaz.font',8)
CALL move(MANUALHOST,49,73)
CALL SetAPen(MANUALHOST,1)
CALL text(MANUALHOST,'©1993 Enosis Creative Services')
CALL move(MANUALHOST,90,83)
CALL text(MANUALHOST,'All Rights Reserved.')

/***** Blank Box Frame *****/

DO
  rlx=333; rly=25; rlw=360; rlh=242; rlth=1

  CALL SetAPen(MANUALHOST,2)
  CALL Move(MANUALHOST,rlx,rly)
  CALL Draw(MANUALHOST,(rlx+rlw),rly)
  CALL SetAPen(MANUALHOST,1)
  CALL Draw(MANUALHOST,(rlx+rlw),(rly+rlh))
  CALL Draw(MANUALHOST,rlx,(rly+rlh))
  CALL SetAPen(MANUALHOST,2)
  CALL Draw(MANUALHOST,rlx,rly)

  CALL SetAPen(MANUALHOST,2)
  CALL Move(MANUALHOST,(rlx+rlth),(rly+rlth))
  CALL Draw(MANUALHOST,((rlx+rlw)-rlth),(rly+rlth))
  CALL SetAPen(MANUALHOST,1)
  CALL Draw(MANUALHOST,((rlx+rlw)-rlth),(rly+rlh)-rlth))
  CALL Draw(MANUALHOST,rlx+rlth,((rly+rlh)-rlth))
  CALL SetAPen(MANUALHOST,2)
  CALL Draw(MANUALHOST,(rlx+rlth),(rly+rlth))

END

/***** SECTIONS OMITTED HERE *****/

/*****
/* Main Function Gadgets */
*****/

DO
  CALL AddGadget(MANUALHOST,(r4x+13),(r4y+30),"copies"," Copies to Print
", "%d")
  CALL SetGadget(MANUALHOST,"copies",on)
END

CALL copiesto

DO
  CALL AddGadget(MANUALHOST,(r4x+170),(r4y+30),"start"," Start ", "%d")
  CALL SetGadget(MANUALHOST,"start",on)
END

```

```

DO
  CALL AddGadget(MANUALHOST,(r4x+240),(r4y+30),"end"," End ", "%d")
  CALL SetGadget(MANUALHOST,"end",on)
END

call fromto

DO
  CALL AddGadget(MANUALHOST,(r4x+23),(r4y+117),"perfect"," Perfect ", "%d")
  CALL SetGadget(MANUALHOST,"perfect",on)
END

DO
  CALL AddGadget(MANUALHOST,(r4x+146),(r4y+117),"saddle"," Saddle ", "%d")
  CALL SetGadget(MANUALHOST,"saddle",off)
END

DO
  CALL AddGadget(MANUALHOST,(r4x+225),(r4y+117),"16page"," 16 ", "%d")
  CALL SetGadget(MANUALHOST,"16page",off)
END

DO
  CALL AddGadget(MANUALHOST,(r4x+273),(r4y+117),"32page"," 32 ", "%d")
  CALL SetGadget(MANUALHOST,"32page",off)
END

DO
  CALL AddGadget(MANUALHOST,(r4x+13),(r4y+140),"paper"," Print on Paper ", "%d")
  CALL SetGadget(MANUALHOST,"paper",on)
END

DO
  CALL AddGadget(MANUALHOST,(r4x+205),(r4y+140),"film"," Print to Film ", "%d")
  CALL SetGadget(MANUALHOST,"film",off)
END

DO
  CALL SetAPen(MANUALHOST,4)
  CALL rectfill(MANUALHOST,(r3x+115),(r3y+35),(r3x+185),(r3y+50))
  CALL AddGadget(MANUALHOST,(r3x+120),(r3y+35),"print"," PRINT ", "%d")
  CALL SetGadget(MANUALHOST,"print",on)
END

DO
  CALL AddGadget(MANUALHOST,(r3x+20),(r3y+52),"laser"," Laser Printer ", "%d")
  CALL SetGadget(MANUALHOST,"laser",on)
END

DO
  CALL AddGadget(MANUALHOST,(r3x+20),(r3y+67),"prdevice",,
  " Change Printer Device ", "%d")
  CALL SetGadget(MANUALHOST,"prdevice",on)
END

DO
  CALL AddGadget(MANUALHOST,(r3x+158),(r3y+52),"disk"," Print to Disk ", "%d")
  CALL SetGadget(MANUALHOST,"disk",off)
END

DO
  CALL AddGadget(MANUALHOST,(r3x+20),(r3y+110),"draft"," Draft ", "%d")
  CALL SetGadget(MANUALHOST,"draft",off)
END

DO
  CALL AddGadget(MANUALHOST,(r3x+100),(r3y+110),"proof"," Proof ", "%d")
  CALL SetGadget(MANUALHOST,"proof",on)
END

DO
  CALL AddGadget(MANUALHOST,(r3x+195),(r3y+110),"final"," Final ", "%d")
  CALL SetGadget(MANUALHOST,"final",off)
END

DO
  CALL AddGadget(MANUALHOST,(r3x+20),(r3y+125),"black"," Black Only ", "%d")
  CALL SetGadget(MANUALHOST,"black",off)
END

DO
  CALL AddGadget(MANUALHOST,(r3x+187),(r3y+125),"kblack"," 'K' Black ", "%d")
  CALL SetGadget(MANUALHOST,"kblack",on)
END

DO
  CALL AddMenu(MANUALHOST,"Project")
  CALL Additem(MANUALHOST,"Quit","quit")
END

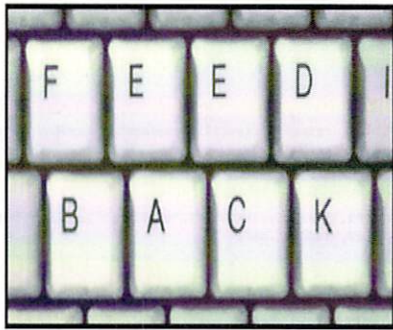
DO
  CALL AddMenu(MANUALHOST,"Options")
  CALL Additem(MANUALHOST," Help","help",-1)
END

RETURN

```

•AC•

Please Write to:
Merrill Callaway
c/o Amazing Computing
P.O. Box 2140
Fall River, MA 02722-2140



Feedback

Letters to the Editor

edited by Paul L. Larrivée

A rebuff of The Bandito; a plea for more IBM and Macintosh ports to the Amiga; a decision by Impulse, Inc. not to include radiosity in *Imagine* upgrade; and a user's claim of easy import of *WordPerfect* files into *Professional Page*.

The Bandito's "Arrogant Sarcasm" Angers Him!

I was most angered while reading the "Roomers" column in AC v. 8.8. In it, The Bandito unfairly attacked both the upcoming Fujitsu FM-Towns Marty game console and the Panasonic 3DO. The Bandito stated that Marty would not be fully IBM compatible. So what? It's a game console, not a business software console. Want to run business software? Then buy an IBM machine or an IBM clone, plain and simple. You would have to be pretty moronic to buy a game console in the hopes that it would be converted into a full-fledged IBM compatible, but such backward thinking seems standard fare for the likes of The Bandito.

Then The Bandito further reveals his arrogant sarcasm by stating that the 3DO's 2MB of RAM seems to keep getting smaller and smaller as the designers work on finishing the operating system. Oh? And how the The Bandito know that the final version of 3DO's operating system won't lie in ROM vs. RAM? Let's also not forget the 3DO's speedy CD-ROM drive and excellent

compression scheme, which the Amiga's current AGA chip set lacks. For someone who doesn't have access to actual hardware, he seems to be pretty darn sure of that spec. He also states that CDTV II will have a more mature development environment. Really? Well, if The Bandito had actually done some homework, he would have discovered that 3DO titles will be created using the Macintosh development system, a system that is certainly more mature and stable than the Amiga's. Don't think so? Well, count the number of system crashes you get on an Amiga vs. the Macintosh in a one-year period, and I'm pretty sure it ain't the Mac that's going to come out waving the white flag.

The Bandito is obviously jealous of 3DO. He dislikes the fact that those who are pushing 3DO are doing so with enough smarts and financial firepower that now over 300 licensees have signed on. Now *that* is how you push a quality product. Instead of criticizing this PR success story, The Bandito should be happy that those who helped bring us the awesome Amiga finally have people who really believe in their

product and are working hard to make it a big success. You can't say the same thing about Commodore, who ruined the Amiga's potential future as the next Commodore 64, or Atari, who botched up all their machines and now seem to have abandoned the Lynx, another great unit that the ex-Amigans helped bring to fruition.

Oh, and one more thing. CDTV II will *not* have the hardware capability to compete head-on with 3DO, nor will it have the licensee agreements, advertising, and financial backing that 3DO already possesses. First, although HAM8 is close in quality with true 24 bit, it's still HAM, and we all know that moving HAM images puts tremendous strain on system resources. Unless, of course, CDTV is to have 68030 or 68040 in there, but then the price would be too high, wouldn't it? Oh well, there goes the concept down the toilet! Furthermore, 3DO has 25MHz RISC processor, true 24-bit color, 16-bit sound, and enough sprite power to put any AGA game to shame. What? Multitasking and functionality? 3DO has a multitasking environment, but again,

has a multitasking environment, but again, if you want computer functionality, then get a computer! Oh, and one more thing. 3DO will be out soon, and those who have seen the first batch of software are fully impressed. As far as CDTV II is concerned, the usual response I get is "Yeah, but that's a Commodore!" Oh well, I guess in the end it all comes back to you.

Joseph Luppens
New York, NY 10035

We know that The Bandito has the power to enrage readers, but his "arrogant sarcasm" is an essential part of his attraction. Why else would readers look for his column as much as any other column each month? As for your 3DO/CDTV II comparison, we'll pass that on to The Bandito for his reaction.—Editor

Software, Anyone?

I think that the lack of appropriate software is one of the major obstacles to the proliferation of the Amiga computer. We Amiga users do have some good software but it isn't the same software that people use at work. We need ports of the major IBM-PC and Macintosh programs.

I'm not a programmer, but I don't understand why an enterprising programmer doesn't go to, say, WordPerfect or Lotus and say, "Let me use your source code. I will create an Amiga version of your program. I will arrange marketing. You will not expend any funds, but you will receive a percentage of every sale, even if I lose money." Commodore ought to seriously consider doing this because of the potential for increased hardware sales.

As I have mentioned, I'm not a programmer, but I believe that if *WordPerfect* is written in C or any other language using a compiler, then it just compiles from the source code using Amiga libraries to come up with an Amiga version. Doesn't the 68000 series chips have similar commands to the 386 and 486? They all add, shift, store. And since the Mac also uses the 68000 series, wouldn't it be even simpler to convert Mac programs?

Assuming PCs and Macs have standard routines for displaying graphics, storing data, and doing computations, cannot a program be written that would first analyze the programs and then substitute a similar routine for the Amiga? I understand that the Amiga and the others do things differently, but the results are the same; only the ways we get there are different. Don't the AGA chips simplify the display problems?

I really believe making the big name programs available would be the greatest benefit to befall the Amiga now in its troubled times. Show someone the basic Amiga capabilities, tell her it can run the same, not just similar, programs she uses at work, and bingo, a sale! This would be especially helpful in Europe to prevent further erosion of the Amiga market share.

Michael Duval
Las Vegas, NV 89110

Developers/programmers, wouldn't you like to respond to Michael's proposal? Apparently, bridgeboards haven't solved all cross-platform problems.—Editor

Impulse Decides Against Radiosity

In the August 1993 issue of *Amazing Computing*, I stated in my article, "Pseudo Radiosity Effects in *Imagine*," that Impulse, Inc. was planning on adding radiosity to its 3.0 version of *Imagine*. Although I had received concrete confirmation from Impulse on this feature, radiosity is no longer going to make it to 3.0. Mike Halvorsen, president of Impulse, informed me how impractical radiosity is in terms of computing time. I apologize if this caused any inconvenience.

Marc Hoffman
Julesburg, CO 80737

No Problem Importing WordPerfect Files with PPage 4.0

I read with interest the recent review of *Professional Page* 4.0. The review was less than complimentary, though the author did attempt to strike a balance. I could tell the article was a strain for him.

Having used *Professional Page* since it first came out, I have been very pleased with the results. Not being a *PageStream* user, I can't make a direct comparison between the two. The first time I used PPage was to publish a 150-page report with illustrations and charts *right out of the box*. While not effortless—I was learning as I went along—the results were far and away better than anything we at the firm had produced before.

I have followed and used the program through its upgrades and am a satisfied—and impressed—user. I have never had the problem of importing *WordPerfect* files as the author describes. Further, I am a

frequent importer of *WordPerfect* IBM files, which, I have found, are a snap to import through the Article Editor.

A couple of points: I do wish that the Article Editor could be beefed up so that I could dispense with *WordPerfect* entirely. The author is right when he says that the Article Editor should be able to run *Professional Page* just as the latter is able to run the Article Editor. The *ProCalc* table import feature appears weak and stunted.

On the other hand, Genies have greatly simplified my life. There are public domain Genies that do amazing things.

All of my architectural firm's marketing materials are produced with *Professional Page*. I publish a monthly illustrated newsletter that has and continues to receive rave reviews from our professional society.

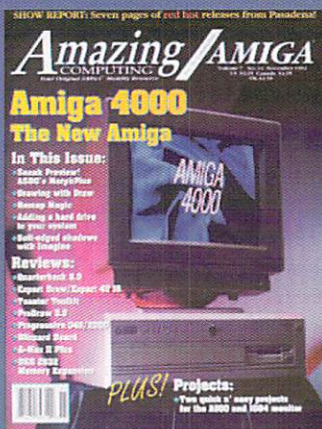
From my point of view, *Professional Page* is just that: *professional*. I don't expect perfection, but I do expect continual improvement and on that score Gold Disk has delivered.

Roy Lowey-Ball
Architect
San Antonio, TX 78205

Please write to:

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 "Implementing an ARexx Interface in Your C Program" by David Blackwell
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"Programming the Amiga in Assembly Language Part 2", by Forest Arnold
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 "No Mousing Around," hide that annoying mouse pointer with this great program, by Jeff Dickson.
 "The Joy of Sets," by Jim Ölinger
 "Quarterback5.0," a review by Merrill Callaway.

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Highlights Include:

"Comeau Computing's C++," A review of this great new C compiler by Forest Arnold.
 "Programming the Amiga in Assembly Language Part 5," by William Nee
 "Make Your Own 3D Vegetation," Laura Morrison shows how to use iterated functions to create 3D trees and plants.
 PLUS! The HotLinks Developer's Toolkit ON-DISK!

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Highlights Include:

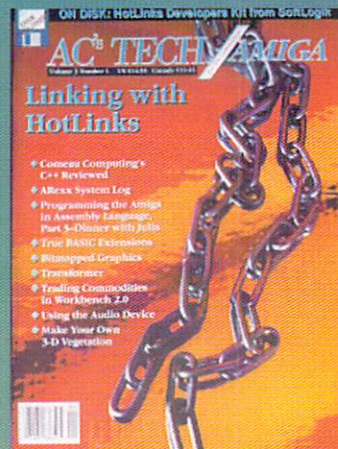
"Olé," An arcade game programmed in AMOS BASIC, by Thomas J. Eshelman.
 "Programming the Amiga in Assembly Language Part 6," by William Nee
 "Wrapped Up with True BASIC," Text and Graphics wrapping modules in True BASIC, by Dr. Roy M. Nuzzo
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The Fred Fish Collection

Below is a listing of the latest additions to the Fred Fish Collection. This expanding library of freely redistributable software is the work of Amiga pioneer and award winning software anthologist, Fred Fish. For a complete list of all AC, AMICUS, and Fred Fish Disks, cataloged and cross-referenced for your convenience, please consult the current **AC's Guide To The Commodore Amiga** available at your local Amazing Dealer.

Fred Fish Disk 881

CopyC_DEMO A Disk Tool for making backup copies, formatting, relabeling, installing, etc. Includes selective backs, doscopy, blockcopy, ramcopy, bitmapcopy, syncwords, and more. Written in assembly. Version 1.0, binary only. Author: Ludwig Huber

Lyr-O-Mat A simple, fun program designed to generate sentences out of a word list and a sentence pattern database. German and English database included. Version 1.1, an update to version 1.0 on disk number 863. Includes source. Author: Karlheinz Klingbeil

PrintFiles A freely redistributable print utility to replace the standard workbench Printfiles command. Supports Arexx, application icon, and setting up a print list with unlimited number of entries. Requires OS 2.04. Includes two versions, V1.4e in English and V1.4d in German, an update to V0.91 on disk number 683. Binary only. Author: Karlheinz Klingbeil

Shuffle A small game to play whenever you haven't something else to do. Turns your workbench into a "sliding-block" type puzzle game. Requires OS2.04 or later. Version 1.0, includes source. Author: Karlheinz Klingbeil

Fred Fish Disk 882

GALer GALs (Generic Array Logic) are programmable logic devices. "GALer" is the software and the hardware which is necessary to program your own GALs. The supported GAL-types are GAL16V8, GAL16V8A, GAL16V8B and GAL20V8, GAL20V8A, GAL20V8B. The circuit diagram for the GAL device programmer is available from the author. Version 1.4, an update to version 1.3 on disk number 633. Now includes both English and German versions. Shareware, includes source. Author: Christian Habermann

Solit A freely-distributable, non-Klondike, solitaire card game for the Amiga under Workbench 2.x. Version 1.06, binary only, shareware. Author: Felix R. Jeske

Fred Fish Disk 883

BBBBBS Baud Bandit Bulletin Board System. Written entirely in Arexx using the commercial terminal program "BaudBandit". Features include up to 99 file libraries with extended filenames, up to 99 fully threaded message conferences, number of users, files, messages, etc. are only limited by storage space, controlled file library and message conference access for users and sysops, interface to extra devices like CD-ROM and others, all treated as read only, complete Email with binary mail and multiple forwarding, user statistics including messages written, files uploaded or downloaded, time, etc. plus much more. Now includes a complete offline reader/answer called bbsQUICK.rexx. This is version 5.9, an update to version 5.7 on disk 761. Includes complete Arexx source. Author: Richard Lee Stockton

Fred Fish Disk 884

All The Archiving Intuition Interface makes things easier if you are archiving or dearchiving files. You can do it all with the click of a mouse button, instead of typing in a whole line in the CLI. Version 1.38, an update to version 1.35 on disk 825. Supports several archiving formats including LHA, Zoo, Arc, UnArj, and UnZip. Requires retools.library. Shareware, binary only. Author: Paul McIsachian

BackUP A freely distributable, shareware hard drive backup program that features a custom Intuition interface, multi-floppy drive support, high-density drive support, incremental/full backups, on-the-fly compression using lha.library, optional verify, two types of backup logs, safe-backups and a restorable configuration. BackUP requires Workbench 2.x, 1MB RAM and lha.library V1 (version 3.88) is an update to V3.77 on disk number 724, containing new features, some optimizations and a few bug fixes. Binary only. Author: Felix R. Jeske

Budget93 Ernie's Budget program for maintaining checking, credit card accounts and personal budgets. Journal input accounting for each checking and card account. Automatic distribution of journal entries into account categories. Reports by month for journal and account categories.

Example journals included. Version 10.00, binary only, shareware. Author: Ernie Nelson

P-Compress A compression program that produces smaller files faster than any other current general-purpose cruncher, using LZH compression algorithms. Can handle single files, whole drawers, disks, or selected files or types of files within drawers and disks. Includes compression and decompression object files which can be linked to your own programs to allow them to access and output data in LZH format. Version 2.9, an update to version 2.5 on disk 780. Provides compatibility with OS3. Author: Chas A. Wyndham, LZH code by Barthel Krekel

PostSplit Update of the Pagestream Postscript file splitter found in the PSTools directory of disk 732. Also includes a couple of text files: pgfonts.lst - a listing of the most common DMF Pagestream font ID numbers. Useful for finding what fonts were used in a document. Adobe.lst - Listing of the ID numbers from the 750 most common Adobe fonts found on the Amiga and PC. Postsplit version 1.05, includes source. Author: Ian Parker

QuickTrans All 17 functions of mathtrans.library and also of mathiesingtrans.library. Faster and about as accurate as Commodore's libraries. Mathtrans.library trig functions over twice as fast; log and exponential about 3 times as fast. Mathiesingtrans.library is update of quicktrans on disk number 592. Mathiesingtrans.library is new, with most speed gains comparable to those of mathtrans.library. Log and tan are about 4 times as fast as Commodore's. Version 100, binary only. Author: Martin Combs

S-Anim5 Turns Anim5 animations (DPaint, Videoscape, P-Animat etc.) into self-contained self-displaying compressed files callable from the Workbench or CLI. As with S-Text and S-Pic these solve all decompression and display problems and save a lot of space as well. No compiling needed. Version 1.1, freeware, binary only. Author: Chas A. Wyndham

S-Pic Turns IFF ILBM pics into completely self-contained selfdisplaying compressed files callable from the Workbench or CLI. As with S-Text (on disk number 8917), S-Pic will give you space-saving files which can be distributed without having to bother about display and decompression compatibility. No compiling needed. Version 1.2, freeware, binary only. Author: Chas A. Wyndham

Fred Fish Disk 885

False The language FALSE and it's compiler were designed for only two reasons: building a working compiler in just 1k (!) and designing a language that looks cryptic and fuzzy (in the APL tradition). The result is a language that is quite powerful (for it's size). It's a Forth type language with lambda abstraction and lots of other goodies. Version 1.1, includes source. Author: Wouter van Oortmerssen

KCommodity Part 1 of a 2 part release of this popular commodity. This part contains the binaries, docs, and support files. Part 2 contains an LHA archive of the sources and may be found on disk number 886. KCommodity is a multifunctional commodity for OS 2.0. Includes window-activator, time-display in several modes and formats, alarm function, KeyStroke-Clicker, time to environment, Window/Screen cycling, LeftMouse, ESC-Key can close Windows, Revision Control System, telephone bill calculator, Screen/Mouse-Blanker, Mapping of german "Umlauts", PopUp Shell, Applcon support, user definable HotKeys, Exploding Windows, Screen Dimmer, Mouse accelerator and more. Fully controllable via Arexx-Port. Completely rewritten UserInterface and several new functions like TagScreens in enhanced version, Display dump (which may dump to a file, too), localized and much more. Again "some" bugfixes were made. Version 2.5a, an update to version 2.00 on disk number 746. Requires OS 2.0 or later. Written in assembly for speed and efficiency. ShareWare, includes source. Author: Kai Iske

Fred Fish Disk 886

GoalKeeper Computer Soccer administration program. With this program you can create your own mini-League with up to eight teams. Is fit for the European and the UK way of counting scores. Now you can really find out who's the best at "Kick Off 2". Sensible Soccer or real soccer! Version 1.0, includes source. Author: Camiel Rouweler

KCommodity Part 2 of a 2 part release of this popular commodity. This part contains an LHA archive of the sources. Part 1 contains the binaries, docs, and support files and may be found on disk number 885. KCommodity is a multifunctional commodity for OS 2.0. Includes window-activator, time-display in several modes and formats, alarm function, KeyStroke-Clicker, time to environment, Window/Screen cycling, LeftMouse, ESC-Key can close Windows, Revision Control System, telephone bill calculator, Screen/Mouse-Blanker, Mapping of german "Umlauts", PopUp Shell, Applcon support, user definable HotKeys, Exploding Windows, Screen Dimmer, Mouse accelerator and more. Fully controllable via Arexx-Port. Completely rewritten UserInterface and several new functions like

TagScreens in enhanced version, Display dump (which may dump to a file, too), localized and much more. Again "some" bugfixes were made. Version 2.5a, an update to version 2.00 on disk number 746. Requires OS 2.0 or later. Written in Assembly for speed and efficiency. ShareWare, includes source. Author: Kai Iske

PatchLibrary This is the initial release of the patch.library programmer's pack. It provides easy-to-use functions to safely install custom code for library functions. Two example programs ShowNeededFiles and CPUClear demonstrate how the library works. ShowNeededFiles patches dos.library to print messages whenever Open(), LoadSeg() or Lock() is called. CPUClear patches graphics.library/BitClear() to use the CPU instead of the Blitter. Version 1.55, assembly source is included for the example programs. Author: Stefan Fuchs

Pyramid A program that create pyramids under the POV raytracer authorizing the user to set up parameters such as the height, the texture, the number of stages, etc. and that allows one to choose the pyramid as desired. French and English versions, with two example pictures. Version 2.0, Binary only. Author: Nicolas Mougel

TextPort Four text porting utilities: StripCR - strips the CR character from the end-of-line codes of MSDOS text files, for AmigaDOS or unix compatibility. AddCR - converts AmigaDOS text files to MSDOS, but doesn't touch EOL codes that are already compatible. StripPR - strips out hard returns from a text file, leaving paragraph formatting intact. Useful for wordprocessors. Reformat - re-wraps a text file to a different line length. Version 1.0, PD, includes source. Author: Alex Matulich, Unicorn Research Corporation

TrackEd A disk sector editor with user friendly hexadecimal/ASCII edit possibilities. Data can be searched on part of a disk or the whole disk in four different ways. Works with all DF: drives. OS2.0 or higher required. Version 1.24, includes source. Author: Camiel Rouweler

Fred Fish Disk 887

ARTM Amiga Real Time Monitor. Displays and controls system activity such as tasks, windows, libraries, devices, resources, ports, residents, interrupts, vectors, memory, mounts, assigns, locks, fonts, hardware, res_cmds, a little SystemMonitor and display the last AErr. Version 1.7, an update to version 1.6 on disk 652. Shareware, binary only. Author: Dietmar Jansen and F. J. Mertens

FHSpread A Spreadsheet program that uses its own custom screen. Can be switched between hires, laced and PAL. NTSC. Version 1.71, should work on any amiga with at least 1MB. Binary only. Author: Frank Hartog

JACOsub Timed script player for professional-quality video titling. Extremely flexible script format allows generation of outlines & shadows around multiple fonts, complete control over position, style, margins, color, auto-wordwrapping, etc. Time events may be non-sequential and overlapping. Displays IFF graphics with the title text. Several 3rd-party script formats supported. True multiple-video buffering for superclean transitions between displays. On-the-fly shift and ramp time adjustments. Thoroughly tested by many users. Version 1.5 shareware, binary only, includes demo and fonts. Author: Alex Matulich, Unicorn Research Corporation

ThrowMouse A Workbench tool that replaces often used mouse clicks through icon tooltups. May be used with WBSStartup to open any workbench drawer etc. Version 0.70, freeware, binary only, with source available from the author. Author: Roland Mainz

MakeLink A replacement for the CBM "MakeLink", fully compatible. Features are soft & hard links, links to files & directories and link loop warnings. Version 0.90, freeware, binary only, with source available from the author. Author: Roland Mainz

NBuff

Rewrite of A.C.R. Martin's original DBuff double-buffer routines from an early library disk. No more memory leaks nor misuse of MrgCop()! The JACOsub video titler uses NBuff. NBuff allows any number of video buffers, not just two. A single 'define makes it fast and Intuition-unfriendly (like DBuff) or friendly (which is a bit slower). Another 'define controls whether NBuff will or will not use the Layers library for transparent, automatic buffer boundary clipping. Version 2.2, PD, C source + binary demo. Docs in NBuff.c. Author: Alex Matulich, Unicorn Research Corporation

SegTextMaster A little tool for programmers who need to use large amounts of text in their programs (i.e. adventure games). It creates an array of characters with a header. Makes compiling/assembly time very quick and reduces space requirements. Requires AmigaDOS 1.2 or higher. Version 1.0, binary only, sample source for application included. Author: Titus v. Kraft

X10Commander Allows owners of the X10(R) CP290 HOME CONTROL INTERFACE to program the 128 event capable interface or send direct

commands through it to control lights, appliances, etc... Version 1.0, binary only. Author: Gregory McKay

Fred Fish Disk 888

CFN When working in the Shell, allows you to complete filenames by just hitting the <TAB> key in a manner similar to that commonly found on UNIX systems. When similar filenames exist, CFN will complete the file name up to the point they differ, then wait for you to add more characters, after which you can simply press the <TAB> key again to complete a unique file name. Version 1.0, includes source. Author: Andreas Günther

MainActor A modular animation package containing modules for various animation and picture formats. You can create/edit/time/play animations of any size. An arexx port is integrated. Version 1.0, binary only. Author: Markus Moenig

NewList The ultimate 'ls'. Fast, small, powerful, and fully configurable. Features include links, networking, Envoy, mufs, assign adds, datatypes, a pager, complete output formatting (date, header, etc.), various recursions, and all the sorts and filters a person will ever need. Newlist runs in 10 major languages as well. Version 8, an update to version 6.0 on disk number 597, binary only, WB2.0+ required. Author: Phil Dietz

SwitchWindow A replacement for the CBM "Help" commodity. It allows you to arrange the windows in many different ways via hotkeys and a powerful REXX port. Version 0.85, freeware, binary only, source available from the author. Author: Roland Mainz

Fred Fish Disk 889

Csh Replacement for the Amiga shell, similar to UNIX csh. Main features include over 100 built in commands, 70 functions, new system variables, file name completion, freely programmable command line editing, file classes, auto cd, lazy cd, intuition menu for the shell window, automatic RX-ing, local variables, \$(), statement blocks, high speed, plus much more. This is version 5.31, an update to version 5.19 on disk 624. Includes source. Author: A. Kirchwitz, U. Dominik Mueller, C. Borreo, S. Drew, D. Dill

DiskCat DiskCat is a disk cataloger. The files can be organized any way you want. You can make and name any category you care to. Categories and files can be moved. Through menu selection, all disks that are inserted are automatically searched and the useful information copied. A 40 char comment can be entered for each file. The database can be searched and exported. Version 1.3, requires OS 2.04+, binary only, shareware. Author: Kenny Nagy

DxConverter Converts binary/hex/ULONG integers/ASCII/RAWKEY codes to binary/hex/ULONG integer or ASCII. Fully initialized. Version 1.0, binary only, freeware. Author: Kenny Nagy

SCSIutil A CLI utility to issue commands to a SCSI disk using a specific SCSI id number. Commands include inquiry, seek, start/stop motor, read sector(s), play audio CD sectors, insert, eject, read capacity, etc. Version 1.815, an update to version 1.0 on disk number 669. Freeware, includes source. Author: Gary Duncan and Heiko Rath

Fred Fish Disk 890

DiskMate A disk utility with multivide disk copier (either DOS or nonDOS disks), disk formatter, disk eraser, disk installer, floppy disk checker. Version 4.3, an update to version 4.1 on disk number 854. Binary only. Author: Malcolm Harvey

DropBox WorkBench Applcon Commodity that examines the filename of the file dropped in it, then searches a configurable database for an action to perform on it, such as read, display, edit, unarc, etc. Requires OS 2.04+. Version 1.01, binary only. Author: Steve Anichini

FileRexx Opens an ASL-filerequester on the frontmost PubScreen, and prints the selected file directory to StdOut, into an environment-variable (if chosen), or into an arexx-variable (if File Rexx has opened a rexx-host). The size of the filerequester will adjust automatically to the given screensize if not affected from the actual arguments. Version 1.3, binary only. Author: Michael Hohmann and Hartmut Goebel

LogicShop Build and test logic circuits. Everything is accessed from an intuition interface. Version 1.1, binary only, freeware. Author: Kenny Nagy

OnTheBall Demo version of a desktop aid that contains: Calendar - View & Print adjustable week, month, and yearly schedules. Search forward & backward through appointments, 9 repeat modes, reminder with snooze. Addressbook - Mailing labels, autodialer. Search & sort by any field. Attach notes. To-Do List - Sorts by optional due dates. Search/Print. NotePad - Full-featured text editor, have as many notes open at one time as you like. Attach notes to any entry in any application. Multi-lingual, works on all Amigas. Preferences - Arexx. Imports Tag(c) files. Create

	personalized "Tags". Much more... V1.10, binary only. Author: Jason Freund, Pure Logic Software	DVIPrint (PasTeX), DVIJLP (AmigaTeX) and DVIJ2P (Gustaf Neumann) are included. TeXPrt has an AREXX port and interprets 18 AREXX commands. TeXPrt runs on an AppWindow and supports an (optional) Applcon for selecting DVI files. Needs at least Kickstart 2.04. This is Version 2.0, freeware, includes source in C. Author: Richard A. Bodi	number 560. Includes source in Oberon-2. Author: Fridtjof Siebert, Christian Stiers	Version 1.01, needs DOS2.04 (V37). Freeware, includes source in assembler. Author: Jan Hagqvist
StiChr	Allows users of ASDG's CygnusEd Professional to select a character via point-click rather than having to remember (or lookup) the ascii keycode for it. Useful for entering international, special, or infrequently used characters. Version 1.0, includes source in C. Requires AmigaDOS 2.0. Author: Njaal Fiskejoen		Stai2D Demo of the multi-purpose educational UTILITY called "Student Aid II". This utility allows you to create, load, edit, practice and print TRUE/FALSE, MULTIPLE CHOICE and FILL IN THE BLANK tests or quizzes on any subject you desire. It will also save grades to monitor progress. This demo contains some sample tests on various subjects, and has all features enabled except for SAVE TEST. Works on WB1.3 to 3.x, NTSC & PAL. (May not work with FastROM). Ver 0.8, binary only. DEMO is freely distributable. Author: Rick Rojas	Sci-Fi_Demo demo of Sci-Fi Type: 14.3d fonts for Imagine and other rendering programs. Includes: Ultra (a full sample fonts), A short doc file with ordering info, and an iff (hi res 16 color) image depicting the rest of the set. Author: Doug Brooks
Fred Fish Disk 891	A requester construction tool for use with DOS-scripts, AREXX and any other language that can start an external program. System and file requesters may be called by command line args, and config files allow construction of complex requesters containing almost any type of gadgets, gadgets. Extended gadget types can call file requesters and start programs. Results are stored in environment variables. Requires OS 2.04, Version 2.5, binary only. Author: Bengt Giger	Fred Fish Disk 893 AmigaWorld A database program that contains information about every country on Earth. It enables you to have a look at the data of one country, or to compare several ones. Among other things it displays location, capital, area, population, languages, currency and the flag of each country. AmigaWorld is very easy to handle, and you can use it with your favourite font, screen mode and colors. You can also choose between English, German, Swedish and Dutch output. It works on every Amiga that has one MByte of memory and Kickstart 1.2 or later. Freeware version 2.0, an update to version 1.1 on disk number 851. New features include flag display and information about religions and international organizations. Modula-2 source is available from the author. Author: Wolfgang Lug	Fred Fish Disk 895 A utility to view IBM ansi pics on the AnsIView. The 16 color IBM Ansi standard fully. Works on any AMIGA running any version of AmigaDOS. Version 1.0, binary only with source available from the author. Author: Marcus Trisdale	VCLi The final version (7.0) of Voice Command Line Interface (VCLi) which will execute CLI commands, AREXX commands, or AREXX Scripts by voice command. VCLi allows you to launch multiple applications or control any program with an AREXX capability entirely by spoken voice command. Many improvements requested by users are now included. VCLi now has its own AREXX port so that its internal options and functions can be controlled by AREXX command. Menu operations have been improved. Documentation is provided in AmigaGuide format. Audio digitizer support has been expanded to include Perfect Sound 3, Sound Magic (Sound Master), DSS 8, and Generic digitizers. This is the fastest version of VCLi yet, and it runs well under either AmigaDOS 2.0 or 3.0. An update to version 5.2 on disk number 807. Binary only. Author: Richard Horne
AskEnv	A requester construction tool for use with DOS-scripts, AREXX and any other language that can start an external program. System and file requesters may be called by command line args, and config files allow construction of complex requesters containing almost any type of gadgets, gadgets. Extended gadget types can call file requesters and start programs. Results are stored in environment variables. Requires OS 2.04, Version 2.5, binary only. Author: Bengt Giger	BadLinks A utility which tests the links in newly written amiguidocuments. Rather than manually clicking on every button in your amiguidoc document to ensure each will link up with a valid node, just run BadLinks. Will work on documents which reference nodes in other amiguidoc documents too. Version 1.17, binary only. Author: Roger E. Nedel	DA "Digital Aesthetics". A program that provides you with a soothing audio environment in which to work, similar to the cd's/tapes available of rainstorms, ocean surfs, rivers, etc. The sounds are contained in modules called "EMods", short for Environment MODules. With DA, you can control various aspects of these EMods, and link EMods together in a list to be played in sequence. Two short EMods are provided, with more available when you purchase the registered version. Version 2.5, OS2.x required, binary only. Author: Greg Grove	GoodDouble Some sample source using a couple of double clicks that make for MUCH EASIER handling of double clicks with ALL buttons. Works perfectly! (at least with DICE...). Version 0.3 Author: Piotr Obminski
DiskSalv2	A disk repair, salvage, and undelete utility for all standard disk devices and file system types. Has a full intuition interface and runs from Workbench or Shell. It can fix most problems in-place, and can reverse a partial or QUICK format. It can copy out from disks that can't be fixed due to physical damage, with a destination going to any AmigaDOS disk device or pipe (eg, TAPE:). In English, locale catalogs included for Danish, French, German, Italian, Norwegian, Finnish, and Swedish, short manuals in English and Swedish. Extensive update to DiskSalv 1.42 on disk 251. Requires AmigaDOS 2.04 or later. Uncrushed Shareware, binary only, V11.27. Author: Dave Haynie	Clouds A program which creates random cloud scenery. You may save the pictures as IFF-files and use them as background for your workbench. Uses new AGA-features. Operational on all AMIGAS with all Workbench-Versions, but needs at least 2.1 to gain access to all features. Version 2.9, an update to version 2.0 on disk number 805. Public domain, includes complete source in KICK-PASCAL. Author: Daniel Amor	Riff A little Iff reader written in modula-2. M2amiga. Version 1.1, includes source. Author: Marcel Timmermans	SmartPlay A quite small, and really fast multiformat module/player for OS2.0+. Supports most moduleformats around, and will play all modules with the _right_ routelayouts. The CPU usage of this player is also really low, so it will run fine even on a 7MHz Amiga, while doing some highspeed serial transfers. 100% coded in assembler. Version 3.1, binary only. Author: Peter Hejt
HDClick	A Harddisk-Menu and Workbench-Tool. Easily start programs, batchfiles or AREXX scripts simply by clicking on a gadget. Opens its own screen or only a small window on the Workbench. Includes an AppWindow/AppIcon to view pictures, listen to samples, print texts or even dechurch archives by just dragging an Icon on the AppObject. Gadgets can have their own fonts and colors. Unlimited number of sub-menus. Easily configurable, with Online-Help. Requires OS 2.04. Version 2.53, an update to V2.0 on disk 605. Binary only, shareware. Author: Claude Müller	CDDTV-Player A utility for all those people, who'd like to play Audio-CD's, while multitasking on workbench. It's an emulation of CDDTV's remote control, but is a little more sophisticated. Access to the archive even without a CD-ROM-Drive (i.e. AMIGA 5004000), although you can't play a CD. PROGRAM & KARAOKE (live on-screen) included. Recognizes CDs automatically. AREXX-Port for usage in other programs. Version 2.05, an update to version 2.0 on disk 868. Docs in English, Français & Deutsch. Supports CDDTV-Drives & XTEC-Drives. FISH-WARE, binary only. Author: Daniel Amor	SamPull A utility which will allow you to manipulate and save the samples of a music module, (just Noise/ProTracker MOD format for now), to disk in a quick and user-friendly graphic environment. As an added bonus, SamPull features sub-programs which will scan for MODs in memory or on any format of disk. Version 2.0, OS2.x required, binary only. Author: Greg Grove	Frederick Fish Disk 892 A GUI-based "paper-saving" utility. Allows you to print text in columns and use various compression modes (up to 160 characters per line and 180 lines per standard DIN A4 page). 5.6 times more characters than in usual modes, but still readable. Written completely in assembly. Kickstart 2.0 and 3.0 compatible. Kickstart 2.0 lock. Keyboard controls and saveable settings. Version 2.5, binary only. Author: Martin Mares, Tomas Zikmund
ROMTagMem	Adds non-autoconfig memory as early as possible to the memory list. In situations where you have only CHIP memory and nonautoconfig memory, your system will run faster and have more CHIP memory available if as many system structures as possible are not in CHIP memory. Binary only. Author: John Matthews	AntiRacism Some texts, pictures and programs dealing with the problem of violence & racism. Sources included. Version 1.0. Author: Daniel Amor and others	ScriptTool A small Workbench-utility which lets you to run commonly used commands and scripts from Workbench's Tools-menu. Version 1.02 and needs DOS2.0 (V36). Freeware, includes source. Author: Jan Hagqvist	Frederick Fish Disk 890 A GUI-based "paper-saving" utility. Allows you to print text in columns and use various compression modes (up to 160 characters per line and 180 lines per standard DIN A4 page). 5.6 times more characters than in usual modes, but still readable. Written completely in assembly. Kickstart 2.0 and 3.0 compatible. Kickstart 2.0 lock. Keyboard controls and saveable settings. Version 2.5, binary only. Author: Martin Mares, Tomas Zikmund
Skew	Skeleton Writer is a tool for generating C code for various Intuition based applications. You click the mouse and the code gets written. Similar to PowerSource and GadToolsBox, but with slightly different functionality. Version 1.28, an update to version 1.2 on disk 746. Includes source. Author: Piotr Obminski	CDDTV-Player A utility for all those people, who'd like to play Audio-CD's, while multitasking on workbench. It's an emulation of CDDTV's remote control, but is a little more sophisticated. Access to the archive even without a CD-ROM-Drive (i.e. AMIGA 5004000), although you can't play a CD. PROGRAM & KARAOKE (live on-screen) included. Recognizes CDs automatically. AREXX-Port for usage in other programs. Version 2.05, an update to version 2.0 on disk 868. Docs in English, Français & Deutsch. Supports CDDTV-Drives & XTEC-Drives. FISH-WARE, binary only. Author: Daniel Amor	WBStart WBStart is a package to emulate the Workbench startup procedure, by loading a program, creating a process for it, and then sending it a WB startup message. Includes a handler process which does the starting of the processes for you and then waits for the startup reply messages. Version 1.3, an update to version 1.2 on disk number 757. Includes source. Author: Stefan Becker	Frederick Fish Disk 890 A GUI-based "paper-saving" utility. Allows you to print text in columns and use various compression modes (up to 160 characters per line and 180 lines per standard DIN A4 page). 5.6 times more characters than in usual modes, but still readable. Written completely in assembly. Kickstart 2.0 and 3.0 compatible. Kickstart 2.0 lock. Keyboard controls and saveable settings. Version 2.5, binary only. Author: Martin Mares, Tomas Zikmund
Fred Fish Disk 892		CDTV-Player A utility for all those people, who'd like to play Audio-CD's, while multitasking on workbench. It's an emulation of CDDTV's remote control, but is a little more sophisticated. Access to the archive even without a CD-ROM-Drive (i.e. AMIGA 5004000), although you can't play a CD. PROGRAM & KARAOKE (live on-screen) included. Recognizes CDs automatically. AREXX-Port for usage in other programs. Version 2.05, an update to version 2.0 on disk 868. Docs in English, Français & Deutsch. Supports CDDTV-Drives & XTEC-Drives. FISH-WARE, binary only. Author: Daniel Amor	DNet A link protocol that provides essentially an unlimited number of reliable connections between processes on two machines, where each end of the link can be either an Amiga or a Unix (BSD4.3) machine. Works on the Amiga with any EXEC device that looks like the serial device. Works on UNIX with tty and socket devices. Achieves better than 95% average throughput on file transfers. This is version 2.32, an update to version 2.10 on disk number 294. Includes sources for both the Amiga and Unix versions. Author: Matt Dillon and others	Frederick Fish Disk 890 A GUI-based "paper-saving" utility. Allows you to print text in columns and use various compression modes (up to 160 characters per line and 180 lines per standard DIN A4 page). 5.6 times more characters than in usual modes, but still readable. Written completely in assembly. Kickstart 2.0 and 3.0 compatible. Kickstart 2.0 lock. Keyboard controls and saveable settings. Version 2.5, binary only. Author: Martin Mares, Tomas Zikmund
DvHrP	A printer driver for HP LaserJet (trademark of the Hewlett Packard Company) and compatible printers. It translates DVI files, usually generated by TeX, to a code understood by HP-LJ (PCL, printer control language). DvHrP supports downloading controls, which gives you extremely fast output. It allows you to include IFF ILLM files into your documents. Version 1.0, binary only. Author: Ales Pecar	LazyBench LazyBench is a utility for lazy people with a hard disk crammed full of goodies which are difficult to reach because they are buried away in drawers inside drawers inside drawers inside drawers... Supports tools and projects and both OS 1.3 and OS 2.xx versions are supplied with this distribution. LazyBench for OS 1.3 opens a little window on the Workbench screen and delivers a fully configurable menu which brings up to 30 applications at your fingertips. LazyBench for the OS 2.xx adds an item under the Workbench "Tools" menu, installs itself as a Commodoty and waits in the background. Use its hot key combination to pop up its window and then select an application to be launched. Versions 1.01 (OS 1.3) and 1.10 (OS 2.xx), an update to the versions on disk number 860. Binary only. Author: Wether "Mirco" Pirani	EPP E Preprocessor. Simple, easy-to-use macro preprocessor intended for use with Wouter van Oortmerssen's E language compiler. Allows E programmer's to "include" (similar to C) E source code modules, thus adding modularity to the E language. Should work on any OS version. Update to V1.0, improved speed; bug fixes; new OPT TURBO directive for turning on Turbo mode for single modules; CtrlC made reliable. Version 1.1, includes source. Author: Barry Willis	Frederick Fish Disk 890 A GUI-based "paper-saving" utility. Allows you to print text in columns and use various compression modes (up to 160 characters per line and 180 lines per standard DIN A4 page). 5.6 times more characters than in usual modes, but still readable. Written completely in assembly. Kickstart 2.0 and 3.0 compatible. Kickstart 2.0 lock. Keyboard controls and saveable settings. Version 2.5, binary only. Author: Martin Mares, Tomas Zikmund
Gemini10X	All-new printer driver for Star Gemini-10X and 15X printers. Features graphics resolutions twice as high as the Commodore produced "EpsonXOI" driver. Version 35.1, binary only. Author: Michael Böhmisch	LazyBench LazyBench is a utility for lazy people with a hard disk crammed full of goodies which are difficult to reach because they are buried away in drawers inside drawers inside drawers inside drawers... Supports tools and projects and both OS 1.3 and OS 2.xx versions are supplied with this distribution. LazyBench for OS 1.3 opens a little window on the Workbench screen and delivers a fully configurable menu which brings up to 30 applications at your fingertips. LazyBench for the OS 2.xx adds an item under the Workbench "Tools" menu, installs itself as a Commodoty and waits in the background. Use its hot key combination to pop up its window and then select an application to be launched. Versions 1.01 (OS 1.3) and 1.10 (OS 2.xx), an update to the versions on disk number 860. Binary only. Author: Wether "Mirco" Pirani	PrtsC Have you ever noticed that there is a PrtSc key on the numeric keypad? If you press it you'll find that nothing happens, but here's the solution. So if you've ever wanted to have a working PrtSc-key, try this. Requires OS2.0 (V36). Version 1.08, freeware, includes source in assembler. Author: Jan Hagqvist	Frederick Fish Disk 890 A GUI-based "paper-saving" utility. Allows you to print text in columns and use various compression modes (up to 160 characters per line and 180 lines per standard DIN A4 page). 5.6 times more characters than in usual modes, but still readable. Written completely in assembly. Kickstart 2.0 and 3.0 compatible. Kickstart 2.0 lock. Keyboard controls and saveable settings. Version 2.5, binary only. Author: Martin Mares, Tomas Zikmund
Indent	A C source code formatter/indenter. Especially useful for cleaning up inconsistently indented code. Version 1.8, an update to version 1.7 on disk 821. Includes source. Author: Various. Amiga port by Carsten Steger	Resize A font-sensitive utility to change the dimensions of the shell window. Offers two options: Reporting the current dimensions of the shell window and setting new ones. Includes source. Author: Bernd Raschke	VerCheck A little script utility especially for 2.04 users with 1.3 Rom share/KickDisk. This helps you to boot under the right system when using an alien Kickstart. Version 2.00, now includes CPU/FPU checking too. Freeware, includes source in assembler. Author: Jan Hagqvist	Frederick Fish Disk 890 A GUI-based "paper-saving" utility. Allows you to print text in columns and use various compression modes (up to 160 characters per line and 180 lines per standard DIN A4 page). 5.6 times more characters than in usual modes, but still readable. Written completely in assembly. Kickstart 2.0 and 3.0 compatible. Kickstart 2.0 lock. Keyboard controls and saveable settings. Version 2.5, binary only. Author: Martin Mares, Tomas Zikmund
Look	A powerful program for creating and showing disk magazines. Supports IFF pictures, IFF brushes, ANSI, fonts, PowerPacker, and many more features. Programmed in assembly language to be small and fast. German language only. Version 1.9, an update to version 1.6 on disk 816. Shareware, binary only. Author: André Voget	FMsynth A program to create sounds with FM synthesis. It has six operators, a realtime LFO and a free editable algorithm. The sound can be played on the Amiga keyboard and saved in IFFSVX format. Version 1.1, gtware, includes source in Oberon-2. Author: Christian Stiers	PrtsC Have you ever noticed that there is a PrtSc key on the numeric keypad? If you press it you'll find that nothing happens, but here's the solution. So if you've ever wanted to have a working PrtSc-key, try this. Requires OS2.0 (V36). Version 1.08, freeware, includes source in assembler. Author: Jan Hagqvist	Frederick Fish Disk 890 A GUI-based "paper-saving" utility. Allows you to print text in columns and use various compression modes (up to 160 characters per line and 180 lines per standard DIN A4 page). 5.6 times more characters than in usual modes, but still readable. Written completely in assembly. Kickstart 2.0 and 3.0 compatible. Kickstart 2.0 lock. Keyboard controls and saveable settings. Version 2.5, binary only. Author: Martin Mares, Tomas Zikmund
MouseAideDEMO	DEMO version of a "Mouse" utility which has all the standard functions: Mouse Acceleration with threshold, window and screen manipulation by mouse and keyboard, mouse and screen blanking, SUN (auto-activation) mouse, use of delta "hot key" command, Keyboard "String" macros, etc... But also has functions the "Mouse" programs do NOT, such as: ShellCycling, Key Clicking, KeyClosing, Multi-Icon-Select with Mouse, Middle Mouse Button Windowing, EZ-Data generation, Mouse Port switching, Workbench to the front function, EZDragging, Freezing Mouse & Keyboard of all input, etc... Now features an easy to use Pop-Up 2.xx style intuition interface and the ability to function correctly in the new screen modes! Written in assembly for efficiency in size and CPU usage. Version v9.69a, an update to version v7.12a on disk 788. Binary only. Author: Thomas J. Czarnicki	MakeDMake An automated DMake file generator. You give it the names of all the C-files used to produce your executable (except #include'd .c or .h files), and it will automatically scan them to find all dependencies, and produce a ready to use (in many cases) DMakeFile calling DCC with options you will need for normal compilation and linking. Version 0.22, an update to version 0.19 on disk 810. Includes source. Author: Piotr Obminski, from original code by Tim McGrath	VerCheck A little script utility especially for 2.04 users with 1.3 Rom share/KickDisk. This helps you to boot under the right system when using an alien Kickstart. Version 2.00, now includes CPU/FPU checking too. Freeware, includes source in assembler. Author: Jan Hagqvist	Frederick Fish Disk 890 A GUI-based "paper-saving" utility. Allows you to print text in columns and use various compression modes (up to 160 characters per line and 180 lines per standard DIN A4 page). 5.6 times more characters than in usual modes, but still readable. Written completely in assembly. Kickstart 2.0 and 3.0 compatible. Kickstart 2.0 lock. Keyboard controls and saveable settings. Version 2.5, binary only. Author: Martin Mares, Tomas Zikmund
TeXPrt	A front-end for DVI printer drivers with a (nice?) GUI. It is highly configurable and can be used with various DVI printer drivers. Configuration files for Georg Hessmann's	MuchMore Another program like "more", "less", "pg", etc. This one uses its own screen to show the text using a slow scroll. Includes built-in help commands to search for text, and commands to print the text. Supports 4 color text in bold, italic, underlined, or inverse fonts. Can load xcrunched files, has a display mode requester and is now localized (german catalog included). Version 3.3, an update to version 3.0 on disk	NarTest A little tool that lets you to play with the new features of V37 narrator device. Also ideal for designing the speech for your own programs.	Frederick Fish Disk 890 A GUI-based "paper-saving" utility. Allows you to print text in columns and use various compression modes (up to 160 characters per line and 180 lines per standard DIN A4 page). 5.6 times more characters than in usual modes, but still readable. Written completely in assembly. Kickstart 2.0 and 3.0 compatible. Kickstart 2.0 lock. Keyboard controls and saveable settings. Version 2.5, binary only. Author: Martin Mares, Tomas Zikmund

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•AC•

And furthermore...

A careful balance of work & play with the Amiga.

by Jeff Gamble

Media Image Productions, a New Bedford, Massachusetts-based company, has incorporated the Amiga into their world of video and television production. *AC* recently visited with the Media Image Productions crew at a festival in New Bedford. They were hosting a laser karaoke concession called "Me TV" that featured Amiga-based video effects.

Using an Amiga 2000 and a Video Toaster, patrons were keyed into a video as they sang their choices of songs. The set-up was simple: a Pioneer Laser Karaoke deck; six Emerson consumer 4-head VCRs for multiple copies of the tapes; a TBC; and an Amiga with the Toaster and Chroma Key. Participants watched a sub-titled video and sang along as they were filmed and instantly chroma-keyed into the video. The concession drew a large crowd and sparked a lot of interest about "the computer under there."

Laser karaoke is not the only thing Media Image Productions does. They offer a full range of video production services. Television commercials and corporate training tapes are just a couple of the specialized services they provide. Like most video productions houses, they do not limit themselves to the use of only one platform. They do use a high-end workstation for a great deal of their work. However, Dave Fortin, Media Image's owner, says that the Amiga is quite capable of doing everything the workstation can and then some.

The Amiga's main role here is for graphics and logos. Media Image Productions has been using an Amiga and Video Toaster since 1991. They use *Lightwave 3-D* and *ToasterPaint* for much of their computer-generated graphics and animations. They appreciate the Amiga's speed, ease of use, and quality. Mr. Fortin says he would like to use the Amiga more and is attempting to push "Me TV" as an additional service of Media Image Productions. Their Amiga and Toaster are used for most of their on-location work. Apparently it is easier to cart around than the workstation. Mr. Fortin says he brings the Amiga with him when he has to go out of state or even out of the country to produce a video.

It is reassuring to see companies such as Media Image Productions using the Amiga in their work. Here is another instance showing the Amiga as a truly professional machine competing with the other big names in the marketplace.



Top: Media Image Production's Mike St. Pierre and Alyssa Fortin demonstrate the art of making a video.

Above: New Bedford residents Marsha Hebert and Tammy Bariteau star in their own video, as they sing "It's My Party".



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101	102	103	104	105	221	222	223	224	225
106	107	108	109	110	226	227	228	229	230
111	112	113	114	115	231	232	233	234	235
116	117	118	119	120	236	237	238	239	240
121	122	123	124	125	241	242	243	244	245
126	127	128	129	130	246	247	248	249	250
131	132	133	134	135	251	252	253	254	255
136	137	138	139	140	256	257	258	259	260
141	142	143	144	145	261	262	263	264	265
146	147	148	149	150	266	267	268	269	270
151	152	153	154	155	271	272	273	274	275
156	157	158	159	160	276	277	278	279	280
161	162	163	164	165	281	282	283	284	285
166	167	168	169	170	286	287	288	289	290
171	172	173	174	175	291	292	293	294	295
176	177	178	179	180	296	297	298	299	300
181	182	183	184	185	301	302	303	304	305
186	187	188	189	190	306	307	308	309	310
191	192	193	194	195	311	312	313	314	315
196	197	198	199	200	316	317	318	319	320
201	202	203	204	205	321	322	323	324	325
206	207	208	209	210	326	327	328	329	330
211	212	213	214	215	331	332	333	334	335
216	217	218	219	220	336	337	338	339	340

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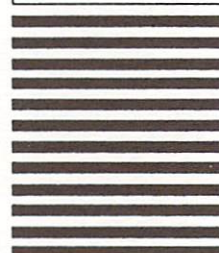
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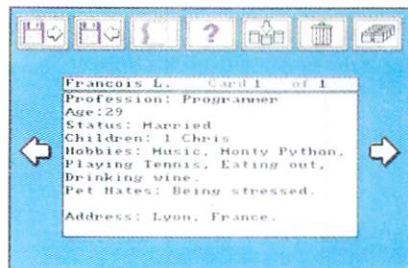
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